

NEWPORT PAGNELL UNION  
AND  
RURAL DISTRICT COUNCIL.

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STATEMENT  
OF THE  
ACCOUNTS

FOR THE

*Year ended Lady-Day, 1909,*

TOGETHER WITH

Report of the Medical Officer of Health for 1908.

AND A LIST OF THE

Guardians, Councillors, Committees, Officers, &c.,

1909-1910.



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# Newport Pagnell Union and Rural District.

## Guardians, Rural District Councillors, and Overseers of the Poor 1909-1910.

Re- tire in.	Parish.	Elected Rural District Councillors who are Guardians by virtue of their office.	Overseers.	Area in Acr's	Popu- lation in 1901.	Asses- able value of Coun- tyRate 1908.	Assess- able value Lady- day 1909.
1911	Astwood ..	Arthur Franklin	Arthur Franklin John L. Wooding	1281	168	£ 588	£ 706
1911	†Bletchley ..	Col. P. B. Giles	Stephen F. Jones George Cook ..	1308	497	3260	3149
1911	*Bradwell &	J. C. Sutton	J. C. Sutton ..	917	3946	9516	10037
1911	*Bradwell	W. Ward	Arthur Gurney ..				
	Abbey	B. Woodward	Peter Masters ..	447	18	1964	2016
1911	Brickhill,	Edward Martin	Alfred Facer ..	1848	448	1980	2322
	Bow ..	Holdom	Robert Wylie ..				
1911	Brickhill,	Rev. M. B. Nepean	Ed. T. Bailey ..	2383	491	2488	2783
	Great ..		James Garratt ..				
1912	Brickhill,	Rev. Louis Jones	Wm. J. Franklin	1367	278	924	1531
	Little ..		Wm. Henman ..				
1911	Broughton ..	John S. C. Bos- worth	Walter Franklin..	937	113	668	679
			W. Betts ..				
1911	Cold Brafield	G. B. Whitworth	J. S. C. Bosworth	714	79	708	728
			W. T. Clarke ..				
1911	Castle Thorpe	Ed. Richardson	A. E. Billing ..	1372	539	9424	9500
			Albert Finch ..				
1911	Chicheley ..	W. C. Goodman	Jno. T. Rawlinson	2071	208	1048	1121
			Geo. Clarke ..				
1911	Clifton	Rev C. W. Fullmer	Emma Riley ..	1454	122	1220	1320
	Reynes		Thos Chas. Turney				
1911	*Emberton ..	William Hawkins	W. R. Scorer ..	1887	498	1840	1909
			Chas. Sizer ..				
1911	†Fenny	Jas. Baisley	W. Hawkins ..	1040	3571	19976	19310
	Stratford	Thos. G. Kirby	E. Norman ..				
		Rob. B. Stevens	D. C. Edward ..				
1911	Gayhurst ..	Rev. E. R. Sill ..	Henry Gilbey ..	960	133	1000	1065
			F. F. Freshwater				
1912	Hanslope ..	W. A. Easte	Eben. E. Osborn..	5801	1424	14680	14722
		James Ruff	Henry Cook ..				
			Jas. Ruff ..				
1912	Hardmead ..	T. J. Wait	Jno. Patterson ..	1211	57	444	569
			J. H. Munday ..				
1912	Haversham..	Robert Wylie	T. J. Wait ..	1634	200	3488	3517
			Wm. Carr ..				
1912	Lathbury ..	F. W. Coales	A. J. Lennox ..	1056	159	1024	1070
			Jos. E. Whiting				
1912	Lavendon ..	Albert Jeyes	Francis W. Coales	2558	674	1648	1695
			Wm. Johnson ..				
1911	*Linford,	W. Uthwatt	A. Kitchener ..	1836	478	2140	2461
	Great..		Wm. B. Shakeshaft				
1912	Linford Little	George Tayler ..	Wm. Uthwatt ..	727	70	680	711
			Geo. Tayler ..				
1912	Loughton ..	Rev. J. T. Athawes	Thos. Waite ..	1536	371	9828	9935
			John Smith ..				
1912	Milton	Hon. & Rev. W.	T. G. Hensman ..	1909	219	1356	1416
	Keynes	S. T. W. Fiennes	John T. Dover ..				
1912	Moulsoe ..	Joseph E. Whiting	J. E. Whiting ..	1654	190	812	914
			Wm. Inns ..				
1912	†Newport	W. B. Shakeshaft	B. Wilford ..	3432	4028	14276	15104
	Pagnell	Thos. Robinson	E. D. Mitchell ..				
		Alfred Bullard	M. Warren ..				
		E. D. Mitchell	A. Bullard ..				



## GUARDIANS OF THE POOR, &amp;c.,—(Continued).

Re- tire in.	Parish.	Elected Rural District Councillors who are Guardians by virtue of their office.	Overseers.	Area in Acre's	Popu- la- tion in 1901.	Assess- able value of Coun- tyRate 1908.	Assess- able value Lady- day 1909.
1912	Newton Blossomville	Rev. W. H. Davis	{ Charles Finch .. W. H. Davis .. }	1014	177	£ 780	£ 800
1910	Newton Longville	David Young	{ Thos. Jordan .. Thos. G. Read .. }	1735	424	1916	2114
1910	N'th Crawley	James H. Hatton	{ Wm. H. Jordan .. Wm. J. Welch .. }	3366	541	2072	2167
1910	*Olney ..	{ J. C. Hipwell Thos. Longland }	{ Lewis Thompson W. E. Pebody .. }	2153	2684	8904	8860
1910	*Olney Park	{ Thomas Bigg	{ Geo. Mynard ..	206	21	44	53
1911	*Petsoe Man'r	.....	{ W. K. Inns ..	411	6	140	156
1910	Ravenstone	William G. Eyles	{ R. Bates .. C. J. Alcock .. }	2075	230	956	1017
1910	Shenley Church End	George Barrett	{ Geo. Clarke .. J. Wells .. }	1662	166	1348	1416
1910	Sherington ..	Ed. Jno. Jefferson	{ Isaac Slayter .. G. J. Hine .. }	1805	548	1792	1829
1910	†Simpson ..	Albert J. Stevens	{ A. J. Stevens .. John Hill .. }	1336	731	5644	5532
1911	*Stantonbury	.....	{ John A. Wylie ..	806	41	560	611
1910	Stoke Gold- ington ..	E. Smith	{ G. B. Whiting .. J. Roddis .. }	2352	629	1620	1551
1910	Tyringham & Filgrave ..	Rev. W. B. Rickards	{ G. Brett .. L. E. Swindell .. }	1792	198	1540	2176
1910	Walton ..	F. Wingrave	{ J. J. Bodley .. F. Cook .. }	773	84	812	835
1910	Warrington	Joseph Howson	{ J. Howson .. W. J. Makeham .. }	1008	59	428	368
1910	Water Eaton	A. Bramley	{ James Smith .. N. Sturges .. }	1016	201	5524	5558
1910	§Wavendon	N. Sturges	{ E. G. Watts .. W. S. Stewart .. }	1793	540	2524	2676
1910	Weston Underwood	William Stephen Stewart	{ H. J. Dover .. J. N. Payne .. }	1873	275	1476	1604
1910	Willen ..	Henry W. Whiting	{ J. B. Whiting .. F. H. Day .. }	678	91	492	515
1910	§Woburn Sands	{ W. H. Inwood John Pikesley }	{ W. B. Toogood .. A. Boyes .. }	341	1043	5932	5867
1912	Woolstone, Great	Rev. H. W. Smith	{ J. Sharman .. Wm. Ellacott .. }	514	45	248	289
1912	Woolstone, Little	Sydney B. Smith	{ Samuel Savage .. Ed. Rees .. }	631	85	408	442
1910	Woughton ..	Rev. F. F. Field	{ W. Higgins, .. Jos. Bone .. }	1224	202	2396	2431

\* The Parishes of Bradwell and Bradwell Abbey, Emberton and Petsoe Manor, Great Linford and Stantonbury, and Olney and Olney Park are amalgamated for Election purposes.

† The Parishes of Bletchley, Fenny Stratford, and Simpson are in the Fenny Stratford Urban District, and are represented by Guardians only.

‡ The Parish of Newport Pagnell comprises an Urban District, and is represented by Guardians only.

§ The Parish of Wavendon was, by an Order of the Bucks County Council dated 9th August, 1906, divided into two parishes, viz. Wavendon and Woburn Sands, as from the 31st March, 1907.

## COUNTY RATE.

	£	s.	d.
County Rate apportioned amongst the 49 Parishes of the Union, Michaelmas, 1908.. .. .	7196	5	2
County Rate apportioned amongst the 49 Parishes of the Union, Lady-Day, 1909 .. .. .	7042	15	0



**The following Justices** are appointed to exercise within the Petty Sessional Divisions of Newport Pagnell and Fenny Stratford, the powers conferred by the Lunacy Act 1890 upon the Judicial Authority:—

WILLIAM WALTER CARLILE, Esq., Gayhurst House,  
Newport Pagnell.

HERBERT SAMUEL LEON, Esq., Bletchley Park, Bletchley.

LIEUT-COL. WENTWORTH GRENVILLE BOWYER, Weston  
Underwood, Olney.

ARTHUR WILLIAM HIPWELL, Esq., Gresham House, Olney. s.o.

COL. PETER BROOME GILES, Holne Chase, Bletchley.

Rev. John T. Athawes, Chairman.

George Tayler, Esq., Vice-Chairman.

Nicholas Herbert, Esq., Local Government Inspector.

George Langford Gibson, Esq., District Auditor.

### HOUSE COMMITTEE.

Mr. E. D. Mitchell, *Chairman*.

Mr. A. Bullard	Mr. W. B. Shakeshaft	Mr. H. W. Whiting
Col. P. B. Giles	Mr. R. B. Stevens	Mr. J. E. Whiting
Mr. J. C. Hipwell	Mr. J. C. Sutton	Mr. F. Wingrave
	Mr. G. Tayler	

### FARM COMMITTEE.

Mr. A. Bullard	Mr. T. Robinson	Mr. H. W. Whiting
Mr. J. E. Whiting		Mr. W. B. Shakeshaft

### FINANCE COMMITTEE.

Rev. J. T. Athawes, *Chairman*.

Mr. J. Baisley	Mr. T. G. Kirby	Mr. G. Tayler
Hon. & Rev. W. T. Fiennes	Mr. T. Longland	Mr. W. Ward
Mr. A. Bramley	Mr. A. J. Stevens	Mr. J. E. Whiting
Mr. J. Howson	Mr. R. B. Stevens	Mr. F. Wingrave
Mr. W. H. Inwood	Mr. J. C. Sutton	Mr. R. Wylie

### UNION ASSESSMENT COMMITTEE.

Mr. J. E. Whiting, *Chairman*.

Rev. J. T. Athawes	Mr. W. H. Inwood	Mr. G. Tayler
Mr. J. Baisley	Mr. E. J. Jefferson	Mr. H. W. Whiting
Mr. T. Bigg	Mr. J. C. Sutton	Mr. R. Wylie
Mr. E. M. Holdom		Mr. D. Young

C. H. Glanville, Clerk—Salary fixed annually.

Salary for the year ended 25 March 1909—£80.

### BOARDING-OUT AND CHILDREN ACT COMMITTEE.

Mr. T. G. Kirby, *Chairman*.

Rev. J. T. Athawes	Mr. F. W. Coales	Mr. W. C. Goodman
Hon. & Rev. W. T. Fiennes	Mr. W. A. Easte	Mr. R. B. Stevens
Rev. W. B. Rickards		Mr. W. Hawkins

### LADY VISITORS.

Mrs. Bullard	Miss Hipwell.	Mrs. N. Sturges.
Mrs. Chantler	Mrs. F. Littleboy.	Mrs. G. Tayler.
Mrs. Edward		

### OFFICERS OF THE UNION.

*Treasurer*:—Francis Littleboy, Newport Pagnell—Salary nil.

*Clerk*:—C. H. Glanville, Newport Pagnell—Salary £120.

## DISTRICT MEDICAL OFFICERS AND THEIR DISTRICTS.

- No. 1 DISTRICT containing an area of 7,965 acres, and a population, in 1901, of 1,667,  
James F. Sheppard, Newport Pagnell—Salary £30.  
Gayhurst, Lathbury, Sherington, Stoke Goldington, Tyringham and Filgrave.
- No. 2 DISTRICT, area 7,091 acres, population 939,  
James S. Stewart, Newport Pagnell—Salary £20  
Chicheley, Moulsoe, North Crawley.
- No. 3 DISTRICT, area 4,669 acres, population 553.  
James F. Sheppard, Newport Pagnell—Salary £15  
Broughton, Milton Keynes, Willen, Little Woolstone, Great Woolstone.
- No. 4 DISTRICT, area 6,367 acres, population 4,753.  
Charles H. Miles, Bradwell—Salary £30  
Bradwell, Bradwell Abbey, Haversham, Great Linford, Little Linford, Stantonbury.
- No. 5 DISTRICT, area 17,228 acres, population 7,464.  
Charles John Deyns, Fenny Stratford—Salary £65  
Bletchley, Brickhill Bow, Brickhill Great, Brickhill Little, Fenny Stratford,  
Newton Longville, Loughton, Shenley Church End, Simpson, Walton,  
Water Eaton, Woughton.
- No. 6 DISTRICT, area 13,625 acres, population 4,569.  
Francis J. Grindon, Olney—Salary £55  
Clifton Reynes, Emberton, Lavendon, Olney, Olney Park, Petsoe Manor,  
Ravenstone, Warrington, Weston Underwood.
- No. 7 DISTRICT, area 7,173 acres, population 1,963.  
W. G. Rutherford, Hanslope—Salary £20  
Castlethorpe, Hanslope.
- No. 8 DISTRICT, area 2,193 acres, population 1,583.  
Thomas D. Holmes, Woburn Sands—Salary £20  
Wavendon and Woburn Sands.
- No. 9 DISTRICT, area 4,220 acres, population 481.  
Lorimer G. Nash, Turvey, Bedford—Salary £16  
Astwood, Cold Brafield, Hardmead, Newton Blossomville.
- No. 10 DISTRICT, area 3,432 acres, population 4,028.  
H. T. Wickham, Newport Pagnell—Salary £30  
Newport Pagnell.

### WORKHOUSE OFFICERS.

		Annual Salary.
†*Master .....	William C. Chapman.....	£58
†*Matron .....	Emma Chapman.....	33
Chaplain .....	Rev. F. B. Gunnery .....	50
Medical Officer .....	James F. Sheppard.....	50
*Porter .....	Richard W. Collier.....	23
†*Cook .....	Emily Higgs .....	23
†*Nurse .....	Esther Collinge .....	38
†*Female Industrial Trainer	Mabel L. Ward .....	23
Organist .....	Hubert Cole.....	5

Those marked with an \* have Furnished Apartments & Rations. + £3 per annum in lieu of beer.

Sec. 26 of the Local Government Act 1888 provides that a County Council shall grant to the Guardians of every Poor Law Union, wholly or partly in their county, an annual sum for the cost of the Officers of the Union and of District Schools to which the Union contributes, and, until Parliament otherwise determine, the said annual sum shall be such sum as the Local Government Board certify to have been expended by the Guardians during the financial year ended the 25th day of the month next before the passing of the Act, on the salaries, remuneration, and superannuation allowances of the said Officers (other than Teachers in the Poor Law Schools), and on drugs and medical appliances.

The County Council will pay to the Guardians such sums as the Local Government Board may certify to be due towards the remuneration of Teachers in the Poor Law Schools (including Industrial Trainers) and for payments to Public Vaccinators under Sec. 5 of the Vaccination Act, 1867.



## RELIEVING OFFICERS.

No. 1 District, containing an area of 33,115 acres and a population in 1901 of 14814.

WILLIAM MOSS—Salary £80.  
Fenny Stratford.

## PARISHES.

Bletchley	Moulsoe
Bradwell	Newton Longville
Bradwell Abbey	Shenley Church End
Brickhill, Bow	Simpson
Brickhill, Great	Stantonbury
Brickhill, Little	Walton
Broughton	Water Eaton
Crawley, North	Wavendon
Fenny Stratford	Willen
Linford, Great	Woburn Sands
Loughton	Woolstone, Great
Milton Keynes	Woolstone, Little
	Woughton

No. 2 District, containing an area of 37,415 acres and a population in 1901 of 9158.

GEORGE FELLOWS—Salary £140.  
Olney.

## PARISHES.

Astwood	Little Linford
Cold Brafield	Newton Blossomville
Castlethorpe	Olney
Chicheley	Olney Park
Clifton Reynes	Petsoe Manor
Emberton	Ravenstone
Gayhurst	Sherington
Hanslope	Stoke Goldington
Hardmead	Tyringham and
Haversham	Filgrave
Lathbury	Warrington
Lavendon	Weston Underwood

No. 3 District, containing an area of 3,432 acres and a population in 1901 of 4028.

ERNEST P. WARD—Salary £20.—Newport Pagnell.  
Parish of Newport Pagnell.

## COLLECTORS OF POOR RATES.

Arthur Beach, Bradwell ..	£20.	D. Feasey, Sherington ..	£8.
T. Best, Fenny Stratford ..	£18.	H. King, Wavendon ..	£7 18s.
		H. King, Woburn Sands	£17 2s.

## VACCINATION.

Fees paid to Vaccinators—

	s.	d.
For each birth entered on the lists .. .. .	1	8
For each successful vaccination .. .. .	5	0
„           „           if over one mile .. .. .	7	6
„           „           of adults, performed at surgery		
or home of person, or of each case, after first performed at		
same time .. .. .	2	6

Public Vaccinators.	District	Michaelmas '08.	Lady-Day '09.
		£ s. d.	£ s. d.
J. F. Sheppard	No. 1-3 and Workhouse	5 12 6	6 17 6
J. S. Stewart	.. 2 .. ..	5 5 10	5 0 10
C. H. Miles ..	.. 4 .. ..	14 11 8	9 15 10
Charles John Deyns ..	5 .. ..	15 8 4	11 18 4
F. J. Grindon	.. 6 .. ..	9 9 2	8 5 0
W. G. Rutherford	.. 7 .. ..	2 10 0	2 7 6
Thomas D. Holmes ..	8 .. ..	2 0 10	1 7 6
George W. Greene ..	9 .. ..	18 4	18 4
H. T. Wickham	.. 10 .. ..	6 8 4	6 10 10
Vaccination Officers.	District.	£62 5 0	£53 1 8
William Moss	1 Fees and Returns	18 6 11	17 3 11
George Fellows	2 „	10 2 5	9 9 11
S. A. Nicholson	3 „	3 18 5	3 19 11
J. Horton,	1 „	5 3	
Printing .. .. .			13 6
Total ..		£94 18 0	£84 8 11



## REGISTRATION.

Registrars of Births and Deaths.	District	Michaelmas '08.	Lady-Day '09.
		£ s. d.	£ s. d.
William Moss .. .. .	1 ..	15 8 6	17 12 0
George Fellows .. .. .	2 ..	10 14 6	10 1 0
S. A. Nicholson .. .. .	3 ..	5 8 6	5 19 6
J. Horton .. .. .	.. ..	2 4 6	
Furnishing Register Office .. .. .	.. ..	14 1 5	
C. H. Glanville, Rent of Register Office			7 0 0
		<hr/> £47 17 5	<hr/> £40 12 6

£13 10s. 0d. was repaid by the County Council.

## COLLECTORS' ACCOUNTS.

William Moss, Collector—Commisson 10 per cent on amount collected.  
 George Fellows „ „ „  
 E. P. Ward „ „ „  
 Repayments by relatives and others in respect of Relief granted on  
 Loan and otherwise :—

	Michaelmas 1908.	Lady-Day 1909.
	£ s. d.	£ s. d.
In Maintenance .. .. .	28 7 3	24 5 2
Out door Relief .. .. .	173 7 6	145 10 0
Lunatics in Asylum .. .. .	84 11 6	104 10 4
Other receipts .. .. .	9 6	
	<hr/> £286 15 9	<hr/> £274 5 6

## SUPERANNUATION ALLOWANCES.

Name.	Office held.	Date of retirement.	Annual Superannuation Allowance.
			£ s. d.
Austen, Frances.....	Matron.....	30 October, 1901 ..	31 5 0
Ashby, Eliza .....	Nurse .....	8 January, 1902 ..	31 10 0
Horton, James .....	Relieving Officer..	24 June, 1904 ....	173 12 8
Terry, Charles .....	Medical Officer ..	25 December, 1904	49 7 6
Pidgen, John W. ..	Collector of Poor		
	Rates, Bradwell	29 September, 1906	3 14 8
Powell, Charles W. .	Clerk to Grdns. ..	25 March, 1908 ..	149 18 4

## MEMORANDUM OF PARISH PROPERTY.

Little Brickhill, New $2\frac{3}{4}$ per cent. Consols ..	£131 15s. 6d.
Interest for Half-year Michaelmas, 1908 ..	1 12 10
„ „ „ Lady-Day, 1909 ..	1 12 10

## Particulars of Common Charges for the Half-Years ended—

	Michaelmas 1908.						Lady-Day 1909.					
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
To In-maintenance .. ..	814	11	1				877	19	10 $\frac{3}{4}$			
„ In other Workhouses ..							2	10	0			
„ Drugs & Medical Appliances	11	8	3				14	1	1			
	825 19 4						894 10 11 $\frac{1}{4}$					
„ Out-relief .. ..	2140	4	0 $\frac{1}{2}$				1983	14	10 $\frac{1}{2}$			
„ Non-resident Poor ..	130	14	4				130	18	5			
„ Boarding Out .. ..	54	2	0				59	3	3			
„ Drugs & Medical Appliances	2	14	6				3	8	0			
	2327 14 10 $\frac{1}{2}$						2177 4 6 $\frac{1}{2}$					
„ Maintenance of Lunatics in Asylum .. ..	1077	17	2				1104	13	6			
„ Fees for visiting Lunatics ..	1	5	0				1	10	0			
„ Expenses of Medical Examination and removal to Asylum	31	0	9				35	7	11			
	1110 2 11						1141 11 5					
„ Salaries of Officers .. ..				514	16	3				515	11	7
„ Rations .. ..				91	16	6				87	11	8 $\frac{3}{4}$
„ Extra Medical Fees .. ..				3	19	0				6	0	0
„ Superannuation .. ..				217	16	8				217	16	8
„ Vaccination .. ..				94	18	0				84	8	11
„ Registration .. ..				47	17	5				40	12	6
„ Buildings and repairs to Buildings ..				332	19	8				615	6	5
„ Furniture and Property .. ..				48	0	3				34	19	3 $\frac{1}{2}$
„ Expenses before Justices .. ..				11	7	5				8	5	0
„ Assessment Committee Expenses ..				3	11	0				86	12	5
„ Rent, Rates, and Taxes .. ..				57	7	11				68	1	3
To Subscriptions :—												
„ Bedford County Hospital ..							3	3	0			
„ Northampton General Infirmary	25	0	0									
„ Orthopædic Hospital .. ..							2	2	0			
„ Ophthalmic Hospital .. ..							5	5	0			
„ Poor Law Unions Assocn.							1	1	0			
	25 0 0											
„ N. S. P. C. C.							1	1	0			
							12 12 0					
„ Printing, Stationery, and Advertising				72	3	10				84	13	3
„ Stamp for Audit .. ..				10	0	0				10	0	0
„ Miscellaneous Expenses .. ..				8	9	7				1	15	11
„ Removal Expenses .. ..				2	5	7					12	0
„ Settlement Expenses .. ..					6	9				6	8	3
„ Paupers in Hospitals .. ..										2	2	6
„ Paupers in Schools .. ..				33	11	10				44	3	1
„ Infant Life Protection Act .. ..				3	0	0				3	0	0
„ Return of Contributions to Rose Stephens				6	16	5						
	£5849 12 2 $\frac{1}{2}$						£6143 19 8 $\frac{1}{2}$					
By County Council Repayments ..												
„ Lunatics, Registrars, Officers' Salaries				868	2	0				1403	0	0
„ Maintenance under Order												
„ Agricultural Rates Act Grant ..				504	19	1				504	19	1
„ Relief Repayments .. ..				285	15	9				274	5	6
„ Farm and Wood Accounts Profit ..				90	8	10				42	2	5
„ Unpaid Fractions .. ..						3 $\frac{1}{2}$						3 $\frac{1}{2}$
„ Sale of Rags, Old Iron, &c. ..				20	5	0				3	13	6
„ Superannuation Deductions .. ..				19	6	6				15	3	10
„ Guardians' Refreshments .. ..				4	6	7				3	8	6
„ R. D. C. for Stone-breaking ..				5	2	2				4	4	8
„ Money on Pauper .. ..												9
„ Disallowance .. ..											2	6
„ Apportioned amongst the 49 Parishes in the Union .. ..				4050	6	0				3892	18	8
	£5849 12 2 $\frac{1}{2}$						£6143 19 8 $\frac{1}{2}$					

# RURAL DISTRICT COUNCIL.

Rev. J. T. Athawes, Chairman.

George Tayler, Esq., Vice-Chairman.

Charles W. Powell, Clerk—Salary for the year ended 31 Decem. 1908

Public Health.....£80.                      Highways.....£30.

*Treasurer*—FRANCIS LITTLEBOY—Salary Nil.

*Medical Officer of Health:*

DIGBY WHITE, Newport Pagnell—Salary £120.

*Inspectors of Nuisances.*

**BRADWELL DISTRICT** containing an area of 27,437 acres and a population in 1901, of 10,013.      **OLNEY DISTRICT** containing an area of 39,409 acres and a population in 1901, of 9,160.

HENRY J. THOMAS,  
North Street, Stantonbury.

JAMES C. NICHOLLS,  
Olney.

**SALARY:**—Inspector of Nuisances, £140      **SALARY:**—Inspector of Nuisances, £140  
Surveyor under Public Health Acts, £20      Surveyor under Public Health Acts, £20  
Canal Boat Inspector, £5                      Petroleum Inspector, £1  
Petroleum Inspector, £1

## PARISHES.

Bradwell	Newton Longville
Bradwell Abbey	Shenley Church End
Bow Brickhill	Stantonbury
Great Brickhill	Walton
Little Brickhill	Water Eaton
Broughton	Wavendon
Castlethorpe	Willen
Great Linford	Woburn Sands
Loughton	Great Woolstone
Milton Keynes	Little Woolstone
Moulsoe	Woughton

## PARISHES.

Astwood	Newton Blossomville
Cold Brayfield	North Crawley
Chicheley	Olney
Clifton Keynes	Olney Park
Emberton	Petsoe Manor
Gayhurst	Ravenstone
Hanslope	Sherington
Hardmead	Stoke Goldington
Haversham	Tyringham & Filgrave
Lathbury	Warrington
Lavendon	Weston Underwood
Little Linford	

Half the Salaries paid to the Medical Officer of Health and Inspectors of Nuisances is repaid by the County Council.

*Surveyor of Highways:*

WILLIAM H. SMITH, Sherington, Newport Pagnell—Salary £155.

Allowance for provision of Office and Stores—£12.

## HIGHWAYS COMMITTEE.

Mr. R. Wylie, *Chairman*.

Mr. G. Barrett	Mr. J. H. Hatton	Mr. E. Richardson	Mr. W. Ward
Mr. T. Bigg	Mr. W. Hawkins	Mr. J. E. Whiting	Dr. W. A. Easte
Mr. E. M. Holdom	Mr. E. Smith	Mr. F. Wingrave	Mr. A. Jeyes
Mr. J. C. Sutton	Mr. G. Tayler	Mr. W. Uthwatt	Mr. D. Young

## FINANCE COMMITTEE.

Rev. J. T. Athawes, *Chairman*

Mr. W. H. Inwood	Mr. W. Ward	Mr. A. Bramley	Mr. J. E. Whiting
Hon. & Rev. W. T. Fiennes		Mr. J. C. Sutton	Mr. F. Wingrave
Mr. J. Howson	Mr. T. Longland	Mr. J. Ruff	Mr. R. Wylie
Mr. G. Tayler			



## SANITARY COMMITTEE.

Mr. T. Longland, *Chairman*.

Rev. W. H. Davis Dr. W. A. Easte Mr. A. Bramley Mr. N. Sturges  
 Mr. W. G. Eyles Mr. E. J. Jefferson Mr. E. Richardson Mr. J. Howson  
 Mr. W. H. Inwood Mr. A. Jeyes Mr. J. Ruff Mr. W. Ward  
 Mr. J. H. Hatton Rev. M. B. Nepean Mr. E. Smith Mr. B. Woodward  
 Mr. E. M. Holdom Mr. J. Pikesley Rev. H. W. Smith

*Representatives on Joint Committee of Ampthill and Newport Pagnell Rural  
 District Councils re Woburn Sands and District Drainage  
 and Water Supply.*

Mr. J. H. Hatton Mr. J. Pikesley Mr. W. Uthwatt Mr. H. W. Whiting  
 Mr. E. M. Holdom Mr. N. Sturges Mr. D. Young Mr. F. Wingrave  
 Mr. W. H. Inwood Mr. R. Wylie

*Representatives on Joint Small Pox Hospital Committee.*

Rev. H. W. Smith Mr. S. B. Smith Mr. D. Young

## RURAL DISTRICT COUNCIL.

## GENERAL EXPENSES.

Michaelmas, 1908.

<i>Public Health, &amp;c.—</i>	£	s.	d.
Establishment ..	53	19	7½
Salaries ..	255	13	0
Registrars' Fees ..	5	18	10
Disinfectants, &c. ..	1	3	6
Infectious Diseases (Notifi- cation) Act Expenses ..	3	7	6
Election Expenses ..	12	1	6
Miscellaneous Sanitary Exs. ..	4	9	1½
Analysis of Water ..	6	15	5
Hospital ..	20	0	0
Legal Expenses ..	7	13	4

<i>Highways—</i>	£371	1	10
Maintenance ..	876	16	4
Salaries ..	92	10	0
Establishment ..			
Charges ..	23	18	9
	999	5	1
	£1370	6	11

<i>Public Health, &amp;c.—</i>	£	s.	d.
County Council ..	190	0	0
Agricultural Rates Act Grant ..	88	7	11
Miscellaneous Receipts ..	10	0	

Apportioned amongst 45 Parishes ..	1091	9	0
	£1370	6	11

Lady-Day, 1909.

<i>Public Health, &amp;c.—</i>	£	s.	d.
Establishment ..	45	3	4
Salaries ..	254	10	0
Registrars' Fees ..	3	12	10
Disinfectants, &c. ..	16	14	6½
Miscellaneous Sanitary Exs. ..	14	17	0
Infectious Diseases Noti- fication Act ..	6	16	0
Analysis of Water ..	6	7	8
Legal Expenses ..		12	0
	£348	13	4½

<i>Highways.—</i>			
Maintenance ..	2574	8	3
Salaries ..	92	10	0
Establishment ..	23	8	0
	2690	6	3
	£3038	19	7½

<i>Public Health, &amp;c.—</i>	£	s.	d.
Agricultural Rates Act Grant ..	88	7	11
Miscellaneous Receipts ..	2	11	2

Apportioned among 45 Parishes ..	2948	0	6½
	£3038	19	7½

## SPECIAL EXPENSES.

Michaelmas, 1908.

	£	s.	d.
Balance in favour of Parishes at begining of Year ..	1246	11	7 $\frac{3}{4}$
Contributions from Parishes	1171	0	0
Agricultural Rates Act			
Grants to Parishes ..	5	13	3
Walton and Woughton			
Water Rents ..	61	6	2
Balance Special Sanitary			
Rates :—Wavendon	1	0	5
Bradwell .. ..	53	12	4
County Council for Olney			
Street Cleaning ..	10	0	0
Bradwell Sewage Farm			
Receipts .. ..	36	2	2
Contribution towards extension of Sewer at Bradwell .. ..	25	2	6
Balances against Parishes at end of Half-Year..	12	14	1
	£2623	2	6 $\frac{3}{4}$

	£	s.	d.
Balance against Parishes at begining of Year ..	39	2	5 $\frac{1}{2}$
Sewerage Works ..	392	8	11 $\frac{1}{2}$
Sewage Disposal Works	108	2	0
Water Works .. ..	47	1	11
Dust Removal and House			
Scavenging .. ..	435	3	7 $\frac{1}{2}$
Street Scavenging ..	9	16	10 $\frac{1}{2}$
Repayment of Loans ..	167	8	4
Interest on ditto.. ..	110	18	2
Fenny Stratford Urban District			
Council, payment for Water to Walton and Woughton	30	0	0
Balance in favour of Parishes at end of Half-Year ..	1283	0	2 $\frac{3}{4}$
	£2623	2	6 $\frac{3}{4}$

Lady-Day, 1909.

	£	s.	d.
Balances in favour brought down .. ..	1283	0	2 $\frac{3}{4}$
Contribution from Parishes	1167	0	0
Contribution towards Sewer	3	0	0
Agricultural Rates Act—			
Grants to Parishes ..	5	13	3
Bradwell Swg. Farm Receipts	35	9	2
Workmen's Comp. Act Claim allowed .. ..	1	2	6
Balance Special Sanitary Rates :			
Bow Brickhill ..	8	11	11
Little Brickhill ..	7	17	0
North Crawley ..	6	18	7
Balances against Parishes at end of Year .. ..	17	4	9 $\frac{1}{4}$
	£2535	17	5

	£	s.	d.
Balance against brought down	12	14	1
Sewerage Works ..	161	14	0
Sewage Disposal Works	138	1	7
Water Works .. ..	48	1	1
Dust Removal and House			
Scavenging .. ..	488	6	7
Street Cleaning ..	6	3	10
Repayment of Loans ..	167	8	4
Interest on Loans ..	108	3	6
Fenny Stratford Urban District			
Council, payment for Water to Walton and Woughton	30	0	0
Claim under Workmen's			
Compn. Act paid ..	1	2	6
Officers Parochial Salaries	33	3	6
Balance in favour of Parishes at end of Year ..	1340	18	5
	£2535	17	5

## MEDICAL OFFICER OF HEALTH'S REPORT.

For the year ending, 31 December 1908.

*To the Chairman and Members of the Newport Pagnell Rural District Council.*

GENTLEMEN,—I have pleasure in submitting my seventh annual report for the year 1908. Although the statistics are not so favourable as they were last year they are slightly better than the average for the last ten years with the exception of the birth rate which is below the average.

*Physical Features and general Characteristics of the District.*—The District comprises an area of 66,846 acres and forms part of the valley of the River Ouse and its tributary the Lovat or Ousel with part of the higher ground on either side of the valley. The elevation varies from 150 to 550 feet above sea level. The Newport Pagnell Urban and Fenny Stratford Urban Districts are bounded on all sides by your District of which they were formerly a part. The Grand Junction Canal, the London & North Western Railway, and a branch of the Midland Railway pass through the District. The rivers are sluggish and having low banks frequently cause inundation of the low lying lands. A serious flood occurred during the last week of April. In the southern and most elevated part of the District the geological formation is generally lower



green sand on a thick bed of Oxford clay. Boulder clay appears in the green sand in places. Towards the middle of the District Oxford clay comes to the surface with superimposed strata of gravel and alluvium near the rivers and glacial drift and boulder clay in places. In the northern part of the District the formation is upper lias clay with great oolite lime stone boulder clay and gravel in places. A large number of the inhabitants gain their livelihood by work in the London & North-Western Railway Co's Carriage Works at Wolverton, situated on the western border of the District. A smaller number of the inhabitants are engaged in the boot factories at Olney, in gas works and brick yards in various parts of the District. The remainder of the labouring population is chiefly employed in agriculture. House accommodation is generally sufficient. Some of the older houses chiefly in the agricultural villages do not satisfy modern requirements. The walls in some cases do not rise above the first floor, giving a floor space in the upper rooms altogether out of proportion to the cubic content, making overcrowding easy. Sixteen cases have been reported, 10 have been abated. Cases were reported in Bradwell, Newton Longville, Wavendon, Olney, and North Crawley. Three houses have been reported unfit for human habitation but were still occupied at the end of the year. Open space about houses is generally sufficient. Cleanliness of surroundings does not exist in many places where scavenging is done by the occupiers of the houses. Thirty-eight new houses have been erected under the supervision of your Surveyors in accordance with your byelaws. Housing of the Working Classes Act. No action has been taken under this Act.

*Water Supply.*—The question of the new supply for Woburn Sands is not yet settled. At an enquiry conducted by the Local Government Board Inspector the proposal was actively opposed by a body of the inhabitants. The existing supply is polluted. The new water offered in place of it is of exceptional purity and ample in quantity. The spirit of opposition seemed to be prompted chiefly by fear of increased rates. A trial well has been sunk at Hanslope and a very pure but hard water obtained. The hardness is inevitable in that part of the District. In all other parts of the District the water supply remains unchanged. Great Brickhill, Little Brickhill, Bow Brickhill, and Walton, have a partial supply conducted in mains from springs in the lower green sand on the Brickhills supplemented by wells locally. Stoke Goldington and Willen receive upland water in mains. Great Linford and Weston Underwood receive water in mains from reservoirs supplied from wells by wind motors. Lathbury is supplied by the Newport Pagnell Urban District mains. New Bradwell receives a partial supply from the London & North Western Co's mains and partially from wells. In other parts of the District the water is derived from deep and shallow wells many of which are grossly polluted by leakage from sewers, drains, cesspools, middens and heaps of decaying house refuse. Unfortunately it is difficult to obtain recognition of the danger of using polluted water and any action taken to improve the supply seems likely to meet with active opposition from those who believe that they have never been injured by drinking sewage and that they will continue to enjoy immunity. I am glad to be able to record that there was no opposition to the proposed water supply for Hanslope.

*Milk Supply.*—Last year the register of milk vendors contained eight entries. Efforts have been made this year to obtain general registration and 68 new entries have been made during the year. Advertisements have appeared in the local press and posters were placed in every parish. Every person known to be a dairyman, cowkeeper, or purveyor of milk, has received:—1. A summary of the Dairies and Cowsheds Order. 2. Instructions as to Registration. 3. A Form of Registration. A special report will be made on this subject early in 1909. No action has been taken under the Sale of Food and Drugs Acts or under Section 117 Public Health Act 1875. A register of slaughter houses has been begun. Butchers shops and slaughter houses have been inspected. No meat has been condemned for tuberculosis. Slaughter houses are improving but some are not yet in compliance with your byelaws.

*Sewerage and Drainage.*—I am glad to be able to report considerable improvement in respect to sewers and drains. In North Crawley 343 yards of new sewer have been laid replacing old leaking sewers and extending the total amount of the sewers. 26 new house drains have been connected with the new sewer and existing drains repaired. In Hanslope 565 yards of new sewers have been laid, removing the outfalls from roadside ditches, a very necessary improvement. Twenty-six new drains have been laid. Notices requiring further drain improvements have been served and probably will be complied with. In Emberton 88 yards of new sewer have been laid and drains diverted from ditches to the new sewer. In Old Bradwell the April flood burst the existing sewer near the Manor House, flooding houses and gardens. 480 yards of new sewer have been laid in place of the old sewer which was very defective. At Wavendon one sewer has been extended and a catch pit constructed at the outfall. The Olney main drainage scheme is still under consideration. The existing sewers and outfalls have been kept in as good condition as circumstances permit. The old brick



sewer in High Street is a constant source of pollution to the water supply. Its large size and insufficient fall make effective flushing extremely difficult and there is constant leakage into the water bearing gravel stratum over the impervious clay. In New Bradwell the main drainage and sewage farm have worked satisfactorily notwithstanding the usual difficulties caused by want of efficient drain flushing. Many closets are not provided with flushing cisterns depending on hand flushing with carried water. Natural consequences are blocked drains and foul closet pans. In Chilton Reynes there is no sewer. Slop water drains discharge into an open ditch by the roadside feeding a pond in the middle of the village. Newton Blossomville has excellent drains & sewers constructed in 1907. In Gayhurst a small hamlet, slop water and water closet drains discharge into ventilated cesspools. All other parts of the District drain into the sewers which receive slop water and in some cases cesspool overflow and water-closet drains and discharge into open ditches. Many of these drains and sewers are defective and the outfalls too near habitations. At Emberton, Lavendon, Loughton, Shenley Church End, Sherington, and Woburn Sands, sewer ditches have been cause of serious nuisance during the year. The condition of sewers is particularly unsatisfactory in Bow Brickhill, Great Brickhill, Great Linford, Shenley Church End, Loughton, Water Eaton and Emberton. A system of main drainage for Sherington and Woburn Sands is still under consideration. During the year an enquiry into the Woburn Sands proposal has been conducted by a Local Government Board Inspector. There was considerable organised local opposition and the question is still undecided. The drainage of this part of the District is highly unsatisfactory.

*Pollution of Rivers.*—Olney, Newton Blossomville, and Willen, are the only parishes causing direct pollution of rivers. Willen and Newton Blossomville to a slight extent, Olney extensively.

*Excrement and Refuse Disposal.*—Public scavenging is undertaken by your servants and carts in the parishes of Bradwell and Olney. In Castlethorpe, Emberton, Hanslope, Lavendon, Bow Brickhill, Little Brickhill, Wavendon, and Woburn Sands, by contract under the local sanitary committee. The Sanitary Inspectors have been appointed to supervise in all cases. The first contract for Bow Brickhill was signed early in the year. In Old Bradwell, parish of Bradwell, house refuse is not removed. The Sanitary Inspector reports that the system might be considerably improved in Bow Brickhill, Bradwell, Wavendon, and Woburn Sands. In Bow Brickhill the contractor complains of pit privies and want of ash bins. Some progress has been made in the village but there is still room for much improvement. In Old Bradwell there are also pit privies. House refuse is not collected although the sanitary rate is levied over the whole parish. In New Bradwell, in Bradwell parish, ash bins are generally needed. In Wavendon some pit privies remain, and ash bins are needed. In Woburn Sands the present uncertainty about the proposed main drainage is a bar to progress and the method of scavenging is more haphazard than systematic. During the year tenders for scavenging contract were invited by the Great Brickhill Sanitary Committee. In this village there are many large middens. On this account the tender received was high and has not been accepted. If these large middens were replaced by pail closets scavenging would be much easier and consequently cheaper. The condition of this village is very bad and systematic scavenging is urgently needed. These pit middens are an abomination. 73 have been altered to pail closets during the year in various parts of the District but many remain, particularly in Great Brickhill, Great Linford, and Water Eaton, where the sanitary surroundings of the houses are in consequence very bad. Under the scavenging contracts and scavenging by the Council's servants, pail closets are emptied once in seven days. Pit middens at intervals varying from three weeks to "when full." Cesspools "when full." Ashbins and small ashpits at intervals varying from seven days to three weeks. Large ashpits "when full." Some of the large middens hold a year's accumulation. In those parts of the District not systematically scavenged midden contents and house refuse are disposed of by the inhabitants individually with a most unfortunate effect on the general cleanliness of surroundings in many places, particularly in Great Brickhill, Loughton, Water Eaton, Great Woolstone, Great Linford, North Crawley and Stoke Goldington. I find heaps of animal and human excrement mixed with decaying vegetable matter close to wells and houses. During the year I have made systematic inspections of the District and from time to time have reported to you the conditions existing as to water supply, sewerage, drainage and disposal of excrement and refuse indicating changes required in the interests of the public health. Your sanitary inspectors have made house to house inspections in Astwood, Warrington, Great Brickhill, Bow Brickhill and partly in Bradwell, Great Linford, Loughton, Olney and Newton Longville. Having considered reports submitted your Sanitary Committee appointed sub Committees to inspect and report on the conditions existing in:—Great Linford, Water Eaton. The sub Committee in each case confirmed the report made to you. No action has yet been taken. Accompanied by the sanitary inspector, I



met the Land Agent in Water Eaton in 1907. A house to house inspection was made in the village and the necessary reforms discussed. Nothing has been done up to the end of 1908. The drains, sewers and middens in this village are in very bad condition and scavenging is urgently needed. Great Linford is in a similar condition and its sewage pollutes a cattle drinking place.

*Nuisances.*—Your sanitary inspectors have dealt with a large number of nuisances of various kinds during the year. No legal proceedings have been taken. In four cases in which due notices were not complied with, the work has been done by the Sanitary Authority under Sections 23, 36, and 62 Public Health Act, 1875, and Section 3 Public Health Act Water Act 1878. One of these cases has been the subject of appeal to the Local Government Board and a Local Inquiry under Section 268 Public Health Act 1875. The action of the Sanitary Committee was confirmed.

*Schools.*—There are 32 elementary schools in the district:—23 are provided with pail or water closets. 6 with large pit middens. 3 with small pit middens. 18 with good drains. 12 with old drains of doubtful quality. 2 have no drains. 6 have a good water supply. In the others the water supply is doubtful. The schools have been closed in Chicheley, Stoke Goldington, Sherington and New Bradwell. The County Council has appointed a Medical Inspector of school children with the title of County Education Medical Inspector. I have conferred with him and the following arrangements have been made to ensure co-operation between the Education and Sanitary Authorities:—1. When any case of infectious disease except chicken pox occurs amongst children attending a school, the child is excluded with its brothers and sisters. The school is disinfected daily, the floor being sprayed with cyllin solution before it is swept and the desks and woodwork dusted with a cloth damped in the same solution after the sweeping. If other cases be reported the school is sprayed with cyllin solution throughout. When there is evidence that in spite of these precautions the infection is becoming epidemic the school is closed. 2. When a school is closed by the Medical Officer of Health under Art. 57 of the Education Code the County Education Medical Officer shall write to the Medical Officer of Health informing him of the date on which the school shall be disinfected before it is opened. 3. When a school is closed by the County Education Medical Officer under Art. 45 of the Education Code he shall inform the Medical Officer of Health of the fact and of the reason for closure. 4. In the event of a case of scarlet fever, enteric fever or diphtheria, or other infectious disease, coming to the knowledge of the County Education Medical Officer of which the Medical Officer of Health is not aware, the County Education Medical Officer shall call on, telephone, or telegraph, to the Medical Officer of Health giving name and address and the disease from which the child suffers. If the County Education medical officer excludes a child from school owing to pulmonary tuberculosis he shall write to the medical officer of health giving the name and address of the child. 5. When in a country district a teacher reports a case of illness which is unattended by a doctor and is suspected to be diphtheria, scarlet fever, or enteric fever, the County Education medical officer shall report the suspicious case to the medical officer of Health. 6. The sanitary inspector shall send the County Education medical officer information regarding notifications of scarlet fever, diphtheria, and enteric fever. 7. The sanitary inspector shall inform the County Education medical officer when patients suffering from these diseases and infected houses have been disinfected by the authority. 8. The Education Authority shall provide stamped postcards for these purposes and shall pay the sum of one penny for each card received.

*Infectious Diseases.*—Eighty-four cases have been notified during the year, 27 in the Olney sub registration District and 57 in the Fenny Stratford sub registration District, 2 more than last year but much less than the average for the last eight years. The numbers are as follows, 1901, 135; 1902, 130; 1903, 80; 1904, 118; 1905, 152; 1906, 70; 1907, 82; 1908, 84. Average 1901 to 1907, 109.57. Diphtheria:—Four cases were notified, one was fatal. The cases were distributed as follows, North Crawley, 1 in July: Bow Brickhill, 1 in May; Wavendon, 2 in September. The fatal case occurred in North Crawley in a child of 6. The disease was of severe laryngeal type and was rapidly fatal. The house is damp and the standard of living in the family low. The case in Bow Brickhill occurred in a child aged 2. The sanitary condition of the house, a farm, was bad. The two cases in Wavendon aged 5 and 27 were daughter and mother. Both were very mild cases. In cases of diphtheria the Council pays for a Bacteriological Examination and this year acting on my advice you decided in future to pay for secondary examinations to determine absence or persistence of infection in cases apparently well. Erysipelas:—Twenty-two cases were notified in the following parishes, Bradwell 10, Hanslope 2, Olney 1, Newton Longville 1, Woburn Sands 3, Great Brickhill 1, Sherington 1, Haversham 1, Lavendon 1, Water Eaton 1. Erysipelas amounts to 26 per cent. of the total number of notifications. As usual a large number occurred in Bradwell. Most of the cases were of an exceedingly mild type. There was one death in Old Bradwell in April. The patient was a man aged 66 who died before the notification was received. Scarlet Fever:—Fifty-five cases were notified. Last year there were forty-one. Cases were distributed as follows, New Bradwell 22, Broughton 2, Chicheley 5, Great Linford 10, Hanslope 13, Stoke Goldington 2, Wavendon 1. In New Bradwell cases occurred as follows, July 1, August 4, September 4, October 4, November 3, December 7. An outbreak of measles began in December and the schools were closed by the County Education Medical Officer a week before the holidays. Many of these cases were very mild and infection was probably spread by unrecognised cases. Several cases were notified as "Convalescent from Scarlet Fever." Two very mild cases occurred in Broughton in the same family. In Chicheley all cases occurred in the same house in March. The disease was of a serious type and two children died, a boy aged 6 and a girl aged 7. In Great Linford the first case was notified 17th September. On the 8th October a boy was brought to his Medical Attendant's house for advice about a supposed skin disease. He was disquarming freely and gave a distinct history of scarlet fever. Another case was found in the family and three more in the family living next door and two in another house near the second. Two other cases occurred in the other end of the village on the 20th October and 1st November. In Hanslope a case was notified 22nd September. On 3rd November 5 cases were notified in the same house, ages 4 to 10. Two of these children attended school on 2nd November while showing obvious symptoms of the disease which appeared the day before. Three more cases were notified 21st November one at each end of the parish and one in the middle. One case 23rd.



November, one 29th November, one 10th December and one 13th December. In Stoke Goldington both cases occurred in January the last of the outbreak in 1907. One of these was in a farm house with a dairy attached. The dairy was closed and the milk given to the farm stock. The case at Wavendon was reported by the County Education Medical Officer. It was a very mild case and the child had been kept from school. Enteric Fever :—The single case was notified in New Bradwell 9th September. I could not determine the origin of infection. It was probably due to a blocked drain which caused extensive pollution of the subsoil round the house. There were ten persons living in the house. Puerperal Fever :—Two fatal cases occurred, one in New Bradwell in June and one in North Crawley in January. The case in New Bradwell had been dead for a week before I became aware of its occurrence by information received from the Registrar of Deaths. The death was registered as puerperal Septicemia and the doctor in attendance did not consider it notifiable. A midwife had been in attendance also and had left the District. She was traced and a note of the case sent to the Medical Officer of Health of Wolverton where she lived. The case in North Crawley was attended by a midwife and seen by a qualified medical man shortly before death. Information was given to the Bucks County Inspector of Midwives and an enquiry was held by the Central Midwives' Board. The midwife was censured. In this case the sanitary surroundings of the house were very bad. Measles :—This disease has been prevalent during the year. A serious outbreak occurred in Stoke Goldington in September and October, in Sherington in November, and in New Bradwell in December. There were five deaths, Stoke Goldington, 1 aged 12 November; New Bradwell, 1, 11 months, August; 1, 11 months, December; 1, 19 months, December; 1, 4 years, December. The death in August was uncertified. The schools were closed in each parish. Whooping Cough :—An outbreak occurred in Chicheley in January and the schools were closed for two weeks. There were no deaths caused by this disease. Influenza has been prevalent at the beginning and end of the year. Five deaths were due to this disease: Lavendon, 1, 78 years, February; Sherington, 1, 71 years, March; Bow Brickhill, 1, 72 years, March; New Bradwell, 1, 68 years, April; Olney, 1, 80 years, December. Disinfection was carried out by your Inspectors and disinfectants supplied in all notified cases. Infected rooms and as far as possible infected clothing and furniture are fumigated by formaline which has been used this year instead of sulphur as in former years. Directions are given for boiling cotton and linen clothing. In case of enteric fever, soiled articles which cannot be boiled are burned and compensation given to the owners. In cases of scarlet fever occurring in small cottages where effective isolation is not possible the whole house is liable to infection and effective disinfection cannot be insured by the means at the disposal of your Inspectors. A steam disinfectant is necessary for complete disinfection in such cases. The Infectious Diseases (Prevention) Act 1890 has not been adopted by your Council. This act materially increases the powers of a Sanitary Authority in dealing with infectious disease. Isolation Hospital :—This question is still under consideration. Small Pox Hospital :—This building containing twelve beds is situated in the parish of Woughton on the Green in your District. It is provided for patients suffering from small pox in the Newport Pagnell Rural and Urban Districts, the Fenny Stratford Urban District, and the Potterspury Union, having a combined population of about 43,000. The building stands in about 2 acres. There are also 3 tents and 3 railway saloon carriages which might be made to accommodate about 30 patients. A caretaker's cottage adjoins the Hospital. The management is undertaken by a Joint Committee appointed by the Districts interested. The hospital has not been occupied during the year.

The following table of vaccination statistics is instructive :—

Name of District.	Births Rgstrd.	Successf Vcentns	Died Un- Vcentd.	Pstpd by Mdel Crtifiete	Rmvd fm Dtot Un-Ved	Exemption Certificates Granted.
Newport Pagnell Rural ...	4306	3025	202	59	91	967
Newport Pagnell Urban ...	898	561	41	18	32	241
Fenny Stratford Urban ...	1080	737	73	17	42	204
Potterspury Union ...	3068	1857	227	16	52	815
Total 1899 to 1907 ...	9352	6180	543	110	217	2227
1908						
Newport Pagnell Rural ...	446	242	20	4	5	206
Newport Pagnell Urban ...	85	42	7	2	0	53
Fenny Stratford Urban ...	110	41	3	0	0	69
Potterspury Union ...	388	145	19	6	6	246
Total for 1908 ...	1029	470	49	12	11	574
Total 1899 to 1908	10381	6650	592	122	228	2801

It will be noticed that in the combined Districts 470 children have been vaccinated and 574 exemption certificates granted, against 609 and 252 last year. 109 exemption certificates were granted for children born before the last vaccination act came into force making the total number of certificates granted 2910. The joint Committee has provided accommodation for about forty cases of small pox and it seems likely that before long it may be called upon to deal with five or six hundred. Tuberculosis.—No system of notification of pulmonary tuberculosis is in operation in the District and no action has been taken. Hospital accommodation for cases of pulmonary tuberculosis does not exist in the District and is extremely limited elsewhere. A few cases have been sent to private sanatoria and the cost defrayed by private subscription. Reports.—During the year I have made fortnightly reports on the subject of infectious disease occurring in the District and have reported on the sanitary condition of the whole District as found on systematic inspections. I have received nine applications for advice, made twelve special inspections, and furnished ten reports on various subjects other than infectious disease affecting the health of the District rising out of reports or complaints made to me or to your Council. Neither the Infectious Diseases (Prevention) Act 1890 nor Section 22 Public Health Acts Amendment Act are in force in the District. The Sanitary Inspectors to whom I am much indebted for valuable assistance given during the year have as usual done a great deal of work as shown by the following summary of sanitary work done during the year :—



New sewers laid ...	6	New privies provided	73	Cowsheds paved and drained	1
New drains laid ...	104	Old privies repaired	48	Slaughter houses cleaned and	
Drains repaired ...	51	Overflowing privies		limewashed ...	3
Slaughter houses paved		emptied ...	6	Houses cleaned ...	5
and drained ...	3	New water closets pro-		Sewer ditches cleaned ...	20
Obstruction in drains		vided ...	10	Defective drains abolished	42
removed ...	11	Overcrowding abated	10	Piggery nuisances abated	33
Ashbins provided	18	Cowsheds cleaned and		Various ...	160
		limewashed ...	3		

*Vital Statistics.*—Last year I estimated the population to be 19,900, this year I estimate it to be 21,000. The Olney sub registration District I estimate to have a population of 9,402 and that part of the Fenny Stratford sub registration District contained in your District I estimate to have a population of 11,598. 218 deaths were registered in the District and 13 residents died beyond the District, a total of 231—116 males and 115 females, giving a death rate of 10.5, 2.2 lower than the average for the last ten years. 104 deaths belong to the Olney sub registration District and 127 to the Fenny Stratford sub registration District. There were 446 births—253 males 188 females, 24 more than last year, 31 less than the average for the last ten years giving a birth rate of 21.2 per 1000 of estimated population, the same as last year. 12 illegitimate children were born, 5 males and 1 female in Olney sub registration District and 3 males and 3 females in Fenny Stratford sub registration District. The following table gives the number during the last three years:—

		Births.	Deaths.			Births.	Deaths.
Olney	{ 1906	194	135	Fenny Stratford	{ 1906	269	128
	{ 1907	174	93		{ 1907	248	104
	{ 1908	172	104		{ 1908	274	127

The following table gives the birth and death rate for England and Wales compared with the same rate in your District:—

	Rate per 1,000 living.			
	Births.	Deaths from all causes.	Deaths from 7 chief epidemic diseases.	Deaths under 1 year per 1,000 Births.
England and Wales	26.5	14.7	1.29	121
76 Great Towns	27.0	14.9	1.59	128
142 Smaller Towns	26.0	14.0	1.26	124
England and Wales less the 218 Towns	26.2	14.7	0.99	110
Newport Pagnell Rural District	21.2	10.5	0.57	96.4

Eight deaths were registered under Coroner's certificate after inquest. Two deaths referred to the Coroner were registered without inquest as being due to old age and measles respectively. Two deaths of infants were registered uncertified without inquiry the cause of death being given as heart failure and premature birth.

*Age Mortality.*—The 231 deaths include 43 of infants under one year, 11 of children between the ages of 1 and 5, 9 between 5 and 15, 8 between 15 and 25, and 52 between 25 and 65, 108 were adults over 65 years of age. In 36 of these old age was registered as the cause of death. The following table compares the two registration Districts:—

Deaths.	Olney.	Fenny Stratford.	Deaths.	Olney.	Fenny Stratford
Under 1 year	16	27	75 and under 80	20	20
1 and under 5	3	8	80 ..	85	10
5 ..	15	4	85 ..	90	4
15 ..	25	6	90 ..	95	1
25 ..	65	23			
65 ..	70	7	Total	104	127
70 ..	75	13			

*Infantile Mortality.*—Forty-three deaths gives an infantile death rate of 96.4, 10.5 higher than the average for the last ten years. 70.4 higher than in 1907 when the rate was the lowest recorded. Two illegitimate infants died, the cause of death in one case being premature birth and in the other overlaying (coroner's certificate.) The following tables show the cause and date of death and the parish in which it occurred:—

#### Olney Sub Registration District.

Parish.	Disease.	Age.	Month.
Lavendon	Gastric Catarrh	5 months	January.
Olney	Premature Birth	2 days	February.
Lavendon	Thrush	11 days	May.
Haversham	Convulsions	5 months	May.
Weston Underwood	Broncho Pneumonia	12 days	June.
Olney	Thrush	12 days	June.
Lavendon	Premature Birth	13 days	July.
Hanslope	Heart Failure	1 month	July.
Lavendon	Premature Birth	1 day	July.
Haversham	Sincope	2 months	August.
Olney	Premature Birth	3 days	September.

Olney	Marasmus	1 month	September.
Hanslope	Bronchitis	5 months	September.
Sherington	Premature Birth	2 hours	December.
Stoke Goldington	Marasmus	2 months	December.
Olney	Inanition from Birth	6 days	December.

## Fenny Stratford Sub Registration District.

Great Brickhill	Overlying	3 months	January.
Old Bradwell	Asphyxia Neonotorum	4 days	January.
New Bradwell	Thrush	7 weeks	January.
Little Brickhill	Premature Birth	14 days	February.
Woughton	Accident of Birth	27 hours	March.
Bow Brickhill	Premature Birth	1½ hours	April.
Woburn Sands	Marasmus	4 months	April.
Bow Brickhill	Broncho Pneumonia	7 months	April.
Old Bradwell	Tabes Dorsalis	2 months	April.
Old Bradwell	Broncho Pneumonia	9 months	April.
Old Bradwell	Convulsions	2 months	June.
New Bradwell	Rickets	11 months	July.
Woburn Sands	Premature Birth	4 hours	July.
New Bradwell	Premature Birth	5 days	July.
*Old Bradwell	Heart Failure	1 month	August.
†New Bradwell	Measles Bronchitis	1 month	August.
Water Eaton	Gastric Catarrh	8 weeks	September.
New Bradwell	Accident of Birth	2 days	October.
Woburn Sands	Gastro Enteritis	4 months	October.
Newton Longville	Atelectasis	5 days	October.
New Bradwell	Premature Birth	2 days	November.
New Bradwell	Broncho Pneumonia	1 month	November.
New Bradwell	Bronchitis	1 month	December.
Wavendon	Premature Birth	6 hours	December.
New Bradwell	Convulsions	9 months	December.
New Bradwell	Measles	11 months	December.
New Bradwell	Bronchitis	11 months	December.

\* Uncertified. † Referred to Coroner.

Seventeen deaths occurred in the parish of Bradwell giving a death rate of 108·2, 11·8 higher than the rate for the whole District. The death rate from all causes in this parish is 11·79, 1·29 higher than the rate for the whole District. I think that the chief cause of the high infantile mortality in this parish is the social condition of the parents. The majority of the male inhabitants are employed as general labourers in the London and North Western Railway Carriage Works. The Notification of Births Act, 1907, has not been adopted.

*Tuberculosis*:—Fifteen cases of death from this disease have been registered in the Olney sub registration District and 9 in the Fenny Stratford sub registration District.

Olney District.			Fenny Stratford District.		
			Moulsoe	age 36	February.
			Great Linford	„ 17	April.
Hanslope	age 37	January.	New Bradwell	„ 27	„
„	„ 51	„	„	„ 12	March.
Olney	„ 24	April.	Woburn Sands	„ 15	May.
„	„ 45	June.	Bow Brickhill	„ 24	June.
„	„ 29	October.	Great Linford	„ 28	July.
Stoke Goldington	„ 22	November.	New Bradwell	„ 28	July.
			Old Bradwell	„ 16	October.

The deaths in former years were, 1905, 26; 1906, 24; 1907, 12; 1908, 15. 23 deaths were caused by cancer, 11 in the Olney sub registration District and 12 in the Fenny Stratford sub registration District. The following table gives comparative rates for the past five years:—

Year	Total No. in year	Percentage of deaths from all causes.	Rate per 1000 of estimated population
1904	21	7·89	1·07
1905	19	8·26	·96
1906	25	9·80	1·30
1907	18	9·23	·90
1908	23	9·95	1·09

Five deaths were due to accident. There were no suicides.

*Factory and Workshops Act.*—The factories are:

Hinde & Mann, Boot Factors.	Olney Gas Co.	Carr & Co., Millers.
S. Cowley & Co., „	A. Gudgin & Co. Millers.	Osborn & Co. „
T. Johnson & Co. „	O. Ratcliff, Printer.	Woburn Sands Gas Co.
J. T. Kitchener & Co. „	W. I. Knight, „	Woburn Sands Brick Co.
J. Walder, Aerated Water Manu.	Stoke Goldington Brick Co.	Newton Longville Brick Co.
Olney Brewery Co.	Whiting Bros., Farmers.	Wm. Wesley, Wheelwright.
S. Pebody & Co., Tanners.		



Your duties with regard to Factories under the Act are confined to the issue of certificates of means of escape in case of fire and the receipt of Lists of Outworkers. No certificates have been issued. Three lists of outworkers have been received. There is no register of workshops. Four nuisances have been found in the course of a general inspection and abated during the year. Sanitary accommodation has been provided for males in one case and for females in another. Three urinals have been constructed. Four drains provided. Four premises whitewashed. Three lists of outworkers have been received. There is one underground bakehouse in good condition. One has been closed during the year.

I am, gentlemen, your obedient servant,

DIGBY WHITE, M.D.

TABLE I.

### Vital Statistics of the whole District during 1908 and previous Years

Area of District in acres (exclusive of area covered by water), 66,846.

Total population in 1901, at all ages, 19,173; Number of inhabited houses, 4,471;

Average number of persons per house, 4.2.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Deaths of residents registered in Public Institutions beyond the District	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.*	Under 1 Year.		At all Ages.			No.	Rate.*
				Number.	Rate per 1000 Births registered.	Number.	Rate.*			
I	2	3	4	5	6	7	8	11	12	13
1898	18918	464	24.6	50	109.2	245	13.0	..	..	..
1899	19000	491	25.8	44	89.6	241	12.6	..	..	..
1900	19000	469	24.6	49	104.4	315	16.5	..	..	..
1901	19173	485	26.2	35	72.1	242	12.6	..	..	..
1902	19426	468	24.0	50	107.0	261	13.4	22	283	14.5
1903	19520	542	27.7	46	84.6	240	12.3	8	248	12.9
1904	19500	513	26.3	56	109.1	266	13.6	11	277	12.2
1905	19650	462	23.5	32	69.2	219	11.1	11	230	11.7
1906	19790	463	23.3	45	97.1	259	13.0	4	263	13.2
1907	19900	422	21.2	11	26.0	192	9.6	5	197	9.8
Averages for years 1898-1907.	19387	477	24.	41	85.9	248	12.7	10	249	12.7
1908	21000	446	21.2	43	96.4	218	10.3	13	231	10.5

\* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

TABLE III.

### Cases of Infectious Disease notified during the Year 1908.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.	
	At Ages. — Years.							1	2
	All ages	Under 1	1 to 5	5 to 15	15-25	25-65	65 and upwards.		
Diphtheria (including Membranous croup..	4	..	1	2	..	1	..	1	3
Erysipelas ..	22	1	..	2	1	15	3	5	17
Scarlet Fever ..	55	..	16	37	2	..	..	20	35
Enteric Fever ..	1	..	..	1	..	..	..	..	1
Puerperal Fever ..	2	..	..	..	1	1	..	1	1
Totals....	84	1	17	43	4	17	3	27	57

## IV.

## Causes of, and Ages at, Death during Year 1908.

CAUSES OF DEATH.	DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING IN OR BEYOND THE DISTRICT							Deaths at all ages of 'Residents' belonging to Localities, whether occurring in or beyond the District.	
	All ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and up- wards.	Olney.	Fenny.
Measles .. ..	5	2	2	1	..	..	..	1	4
Scarlet fever .. ..	3	..	..	3	..	..	..	3	..
Diphtheria and mem- branous croup .. ..	1	..	..	1	..	..	..	..	1
Epidemic influenza .. ..	5	..	..	..	..	..	5	3	2
Diarrhœa .. ..	3	3	..	..	..	..	..	1	2
Puerperal fever .. ..	2	..	..	..	1	1	..	..	2
Erysipelas .. ..	1	..	..	..	..	..	1	..	1
Phthisis (Pulmonary Tuberculosis) .. ..	13	..	..	..	6	7	..	6	7
Other tubercular diseases	2	..	..	1	..	1	..	..	2
Cancer, malignant disease	23	..	..	..	..	14	9	11	12
Bronchitis .. ..	11	4	1	..	..	1	5	5	6
Pneumonia .. ..	9	4	1	..	..	2	2	3	6
Other diseases of Res- piratory organs .. ..	1	..	..	1	..	..	..	..	1
Alcoholism, cirrhosis of liver .. ..	1	..	..	..	..	1	..	..	1
Premature birth .. ..	10	10	..	..	..	..	..	5	5
Diseases and accidents of parturition .. ..	4	3	..	..	..	1	..	1	3
Heart diseases .. ..	29	1	..	1	..	7	20	14	15
Accidents .. ..	5	1	1	1	..	2	..	3	2
Cerebral hæmorrhage .. ..	13	..	..	..	..	..	13	8	5
Senile decay .. ..	36	..	..	..	..	..	36	17	19
Nervous diseases .. ..	6	1	1	..	1	1	2	..	6
Nephritis .. ..	5	..	..	..	..	2	3	3	2
Rheumatism .. ..	1	..	..	..	..	..	1	..	1
All other causes .. ..	42	14	5	..	..	12	11	20	22
All causes .....	231	43	11	9	8	52	108	104	127



# Union.—MICHAELMAS, 1908.

PARISHES.	RECEIPTS.			Balance against each Parish at the end of this Half Year.		EXPENDITURE.			Balance in favour of each Parish at the end of this Half-Year.		Total.	
	Contributions paid during this Year	All other Receipts.	£ s. d.	£ s. d.	£ s. d.	Common Charges.	SEPARATE CHARGES.			£ s. d.	£ s. d.	Total.
							County Rate.	Poor Rate Col- lectors' Salaries.	Election Expenses.			
	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
ASTWOOD ...	38	...	...	...	...	18 2 8	24 10 0	...	...	4 7 5	47 0 1	47 0 1
BLETCHLEY ...	202	...	...	...	...	81 0 11	135 16 8	...	...	22 8 8	240 17 9	240 17 9
BRADWELL ...	718	0 11 10	...	...	...	231 13 0	495 12 6	9 17 4	1 11 6	68 8 6	825 11 4	825 11 4
BRADWELL ABBEY ...	126	...	...	...	...	51 17 1	81 16 8	...	...	15 2 2	148 15 11	148 15 11
BRICKHILL BOW ...	168	...	...	...	...	59 0 7	107 5 0	...	...	27 6 7	193 12 2	193 12 2
BRICKHILL, GREAT ...	166	...	...	...	...	71 11 8	103 13 4	...	...	23 8 4	198 13 4	198 13 4
BRICKHILL, LITTLE ...	74	2 9 3	...	...	...	39 7 7	38 10 0	...	...	15 14 7	93 12 2	93 12 2
BROUGHTON ...	44	...	...	...	...	17 9 3	27 16 8	...	...	7 3 6	52 9 5	52 9 5
COLD BRAFIELD ...	46	...	...	...	...	18 14 6	29 10 0	...	...	6 14 9	54 19 3	54 19 3
CASTLETHORPE ...	636	...	...	...	...	244 4 10	431 18 8	...	...	65 19 9	742 3 3	742 3 3
CHICHELEY ...	70	...	...	...	...	29 1 3	43 13 4	...	...	9 19 9	82 14 4	82 14 4
CLIFTON REYNES ...	78	...	...	...	...	33 12 4	50 16 8	...	...	9 1 3	93 10 3	93 10 3
EMBERTON ...	140	...	...	...	...	49 8 2	99 13 4	...	...	14 3 3	163 4 9	163 4 9
FENNY STRATFORD ...	1382	0 11 7	...	...	...	490 2 7	936 7 6	9 0 0	4 0 0	156 16 2	1596 6 3	1596 6 3
GAYHURST ...	66	...	...	...	...	27 7 10	41 13 4	...	...	8 4 11	77 6 1	77 6 1
HANSLOPE ...	1052	0 3 6	...	...	...	378 10 7	718 14 2	9 5 0	...	108 15 3	1215 5 0	1215 5 0
HARDMEAD ...	28	...	...	...	...	14 12 2	18 10 0	...	...	2 12 11	35 15 1	35 15 1
HAVERSHAM ...	220	...	...	...	...	90 9 2	145 6 8	...	...	25 14 8	261 10 6	261 10 6
LATHBURY ...	66	...	...	...	...	27 9 11	42 13 4	...	...	6 14 9	76 18 0	76 18 0
LAVENDON ...	102	...	...	...	...	43 13 6	68 13 4	...	...	10 3 4	122 10 2	122 10 2
LINFORD, GREAT ...	138	...	...	...	...	61 12 7	89 3 4	...	...	15 8 9	166 4 8	166 4 8
LINFORD LITTLE ...	42	...	...	...	...	18 5 8	28 6 8	...	...	3 13 6	50 5 10	50 5 10
LOUGHTON ...	626	...	...	...	...	255 10 8	409 10 0	...	...	72 2 3	737 2 11	737 2 11
MILTON KEYNES ...	88	...	...	...	...	36 7 5	56 10 0	...	...	10 3 11	103 1 4	103 1 4
MOULSOE ...	60	...	...	...	...	22 16 9	40 12 0	...	...	6 16 10	70 5 7	70 5 7
NEWPORT PAGNELL ...	1060	3 0 10	...	...	...	385 16 8	773 5 8	...	...	72 9 7	1231 11 11	1231 11 11
NEWTON BLOSSOMVILLE ...	48	...	...	...	...	20 14 7	32 10 0	...	...	4 13 7	57 18 2	57 18 2
NEWTON LONGVILLE ...	128	...	...	...	...	54 6 11	79 16 8	...	...	16 6 10	150 10 5	150 10 5
NORTH CRAWLEY ...	134	...	...	...	...	55 7 0	86 6 8	...	...	15 13 6	157 7 2	157 7 2
OLNEY ...	646	...	...	...	...	225 9 4	463 15 0	...	...	55 5 10	744 10 2	744 10 2
OLNEY PARK ...	4	...	...	...	...	1 7 3	2 5 10	...	...	1 17 11	5 11 0	5 11 0
PETSOE MANOR ...	12	...	...	...	...	4 0 9	7 11 8	...	...	1 3 6	12 15 11	12 15 11
RAVENSTONE ...	62	...	...	...	...	26 3 2	39 16 8	...	...	8 2 3	74 2 3	74 2 3
SHENLEY CHURCH END ...	86	...	...	...	...	36 7 11	56 3 4	...	...	9 14 11	102 6 2	102 6 2
SHERINGTON ...	118	0 16 5	...	...	...	45 15 8	74 13 4	4 0 0	...	14 6 4	138 15 4	138 15 4
SIMPSON ...	392	...	...	...	...	141 19 1	270 8 10	...	...	40 10 8	452 18 7	452 18 7
STANTONBURY ...	36	...	...	...	...	15 1 11	23 6 8	...	...	3 16 0	42 4 7	42 4 7
STOKE GOLDINGTON ...	98	...	...	...	...	39 18 5	67 10 0	...	...	9 2 2	116 10 7	116 10 7
TYRINGHAM & FILGRAVE ...	102	...	...	...	...	44 6 10	64 6 4	...	...	11 19 10	120 13 0	120 13 0
WALTON ...	52	...	...	...	...	21 6 5	33 16 8	...	...	6 7 2	61 10 3	61 10 3
WARRINGTON ...	28	...	...	...	...	9 14 11	22 5 10	...	...	2 0 9	34 1 6	34 1 6
WATER EATON ...	352	...	...	...	...	143 2 3	230 3 4	...	...	40 5 8	413 11 3	413 11 3
WAVENDON ...	186	0 7 11	...	...	...	67 2 2	112 13 4	3 19 0	...	27 11 8	211 6 2	211 6 2
WESTON UNDERWOOD ...	94	...	...	...	...	41 3 1	61 10 0	...	...	9 5 4	111 18 5	111 18 5
WILLEN ...	32	...	...	...	...	13 4 11	20 10 0	...	...	2 19 4	36 14 3	36 14 3
WOOLBURN SANDS ...	422	0 17 3	...	...	...	144 8 5	264 13 4	8 11 0	...	61 13 8	479 6 5	479 6 5
WOOLSTONE, GREAT ...	16	...	...	...	...	7 7 8	10 6 8	...	...	0 19 0	18 13 4	18 13 4
WOOLSTONE, LITTLE ...	24	...	...	...	...	11 7 4	17 0 0	...	...	1 11 7	29 18 11	29 18 11
WOUGHTON ...	168	...	...	...	...	62 10 8	114 16 2	...	...	17 17 11 <sup>3</sup>	195 4 9 <sup>3</sup>	195 4 9 <sup>3</sup>
TOTAL...	10676	8 18 7	...	...	...	4050 6 0	7196 5 2	44 12 4	5 11 6	1153 0 11 <sup>3</sup>	12449 15 11 <sup>3</sup>	12449 15 11 <sup>3</sup>







## MICHAELMAS, 1908.

## Rural District Council.

MICHAELMAS, 1908.																				
Rural District Council.																				
PARISHES.	Mileage of District Roads.	Balance in favour of each Parish at the commencement of this Half-Year.		Receipts.				Balance against each Parish at the end of this Half-Year.		Total.	Balance against each Parish at the commencement of this Half-Year.		Expenditure.			Balance in favour of each Parish at the end of this Half-Year.		Total.		
		General Expenses.	Special Expenses.	Contributions paid during this Half-Year.		Other Receipts during this Half-Year.		General Expenses.	Special Expenses.		General Expenses.		General Expenses.		Special Expenses.	General Expenses.	Special Expenses.			
				General Expenses.	Special Expenses.	General Expenses.	Special Expenses.				General Expenses.	Special Expenses.	Public Health & Highways.	Other Expenses.						
ASTWOOD .. ..	2 0	£ 5 s. 11 d.	£ 13 s. 14 d.	£ 12	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
BRADWELL .. ..	3 6	64 17 9	220 11 7½	174	540	..	114 17 0	..	..	30 16 3½	..	..	6 14 1	..	..	10 7 10	13 14 4½	30 16 3½	..	
BRADWELL ABBEY ..	.. ..	14 4 9	5 8	34	..	..	..	..	..	1114 6 4¼	..	..	93 1 6	..	618 9 1	145 16 3	256 19 6¼	1114 6 4¼	..	
BRICKHILL, BOW ..	5 0	16 13 9	50 17 6½	38	60	..	..	..	..	48 10 5½	..	..	19 3 7	..	..	29 1 2	5 8	48 10 5½	..	
BRICKHILL, GREAT ..	7 0	19 0 4	63 7 8	50	9	..	..	..	..	165 11 3¼	..	..	21 16 7	..	39 5 3	32 17 2	71 12 3¼	165 11 3¼	..	
BRICKHILL, LITTLE ..	1 4	8 12 4	17 13 10	28	20	..	..	..	..	141 8 0	..	..	26 9 5	..	1 11 6	42 10 11	70 16 2	141 8 0	..	
BROUGHTON .. ..	1 4	3 18 1	..	12	..	..	..	..	..	74 6 2	..	..	14 11 3	..	18 9 2	22 1 1	19 4 8	74 6 2	..	
COLD BRAFIELD ..	0 4	7 5 7	7 16 10	10	..	..	..	..	..	15 18 1	..	..	6 9 1	..	..	9 9 0	..	15 18 1	..	
CASTLE THORPE ..	0 7	62 18 4	35 19 6½	168	36	..	..	..	..	25 2 5	..	..	6 18 6	..	..	10 7 1	7 16 10	25 2 5	..	
CHICHLEY .. ..	1 0	7 9 8	4 15 7½	20	..	..	..	..	..	302 17 10½	..	..	90 6 8	..	45 5 2	140 11 8	26 14 4½	302 17 10½	..	
CLIFTON REYNES ..	4 0	11 4 7	11 0 1½	20	..	..	..	..	..	32 5 3½	..	..	10 14 11	..	..	16 14 9	4 15 7½	32 5 3½	..	
EMBERTON .. ..	2 4	13 19 7	..	34	50	..	1 9 7	..	..	42 4 8½	..	..	12 8 7	..	..	18 16 0	11 0 1½	42 4 8½	..	
GAYHURST .. ..	2 4	7 17 1	..	18	..	..	..	..	..	99 9 2	..	1 15 3½	18 5 6	..	48 8 10	29 14 1	1 5 5½	99 9 2	..	
HANSLOPE .. ..	8 0	95 18 3	33 11 6¼	262	100	..	..	..	..	25 17 1	..	..	10 2 7	..	..	15 14 6	..	25 17 1	..	
HARDMEAD .. ..	1 6	3 17 10	..	10	..	..	2 14 2	..	..	494 3 11¼	..	..	140 0 1	..	128 2 3	217 18 2	8 3 5¼	494 3 11¼	..	
HAVERSHAM .. ..	1 5	23 17 9	10 5 3	62	..	..	..	..	..	13 17 10	..	..	5 8 0	..	..	8 9 10	..	13 17 10	..	
LATHBURY .. ..	1 1	8 12 8	..	16	..	..	..	..	..	96 3 0	..	..	33 9 2	..	..	52 8 7	10 5 3	96 3 0	..	
LAVENDON .. ..	1 2	11 8 5	35 14 3½	30	22	..	..	..	..	24 12 8	..	..	10 3 4	..	..	14 9 4	..	24 12 8	..	
LINFORD, GREAT ..	4 5	17 6 3	19 7 11¼	40	..	..	..	..	..	99 2 8½	..	..	16 3 0	..	12 16 2	25 5 5	44 18 1½	99 2 8½	..	
LINFORD, LITTLE ..	1 0	4 4 5	..	12	..	..	..	..	..	76 14 2¼	..	..	22 15 10	..	6 1 4	34 10 5	13 6 7¼	76 14 2¼	..	
LOUGHTON .. ..	2 2	66 17 10	61 15 5	174	..	..	..	..	..	16 4 5	..	..	6 15 2	..	..	9 9 3	..	16 4 5	..	
MILTON KEYNES ..	3 2	9 6 3	8 8 4	24	9	..	..	..	..	302 13 3	..	..	94 10 2	..	25 0 0	146 7 8	36 15 5	302 13 3	..	
MOULSOE .. ..	2 6	5 7 9	..	16	..	..	..	..	..	50 14 7	..	..	13 9 0	..	5 9 5	19 17 3	11 18 11	50 14 7	..	
NEWTON BLOSSOMVILLE	3 6	4 10 10	..	14	9	..	..	..	1 3 11½	21 7 9	..	..	8 8 11	..	..	12 18 10	..	21 7 9	..	
NEWTON LONGVILLE	4 6	14 6 4	35 10 0½	36	..	..	..	..	..	28 14 9½	..	9 0 11½	7 13 3	..	1 3 0	10 17 7	..	28 14 9½	..	
NORTH CRAWLEY ..	9 2	..	..	57	20	2 0 0	..	..	..	85 16 4½	..	..	20 2 0	..	11 19 8	30 4 4	23 10 4½	85 16 4½	..	
OLNEY .. ..	1 4	59 1 3	22 16 0¼	152	160	..	10 0 0	..	11 10 1½	90 10 1½	4 18 3	16 13 7½	20 9 5	..	14 16 6	33 12 4	..	90 10 1½	..	
OLNEY PARK .. ..	.. ..	2 0 7	..	1	..	..	..	..	..	403 17 3¼	..	..	83 7 9	..	147 19 3½	127 13 6	44 16 8¾	403 17 3¼	..	
PETSOE MANOR ..	.. ..	1 10 1	..	3	..	..	..	..	..	3 0 7	..	..	10 0 0	..	..	2 10 7	..	3 0 7	..	
RAVENSTONE .. ..	4 0	5 11 10	2 0 6¼	18	..	..	..	..	..	4 10 1	..	..	1 9 8	..	..	3 0 5	..	4 10 1	..	
SHERLEY CHURCH END	2 4	9 18 3	30 15 4	24	..	..	..	..	..	25 12 4½	..	..	9 13 5	..	..	13 18 5	2 0 6½	25 12 4½	..	
SHERINGTON .. ..	2 3	10 17 4	28 1 11	32	9	..	..	..	..	64 13 7	..	..	13 9 2	..	7 6	20 9 1	30 7 10	64 13 7	..	
STANTONBURY .. ..	1 0	3 19 7	..	10	..	..	..	..	..	79 19 3	..	..	16 18 8	..	7 13 1	25 18 8	29 8 10	79 19 3	..	
STOKE GOLDINGTON ..	1 5	9 10 6	15 4 11	28	..	..	..	..	..	13 19 7	..	..	5 11 4	..	..	8 8 3	..	13 19 7	..	
TYRINGHAM & FILGRAVE	2 5	10 10 8	..	30	..	..	..	..	..	52 15 5	..	..	14 15 3	..	13 5 0	22 15 3	1 19 11	52 15 5	..	
WALTON .. ..	1 0	4 18 2	1 2	14	9	..	21 0 2	..	..	40 10 8	..	..	16 8 0	..	..	24 2 8	..	40 10 8	..	
WARRINGTON .. ..	0 2	1 14 8	..	6	..	..	..	..	..	48 19 6	..	..	7 17 8	..	18 6 9	11 0 6	11 14 7	48 19 6	..	
WATER EATON .. ..	2 0	36 4 2	54 0 0	98	..	..	..	..	..	7 14 8	..	..	3 12 0	..	..	4 2 8	..	7 14 8	..	
WAVENDON .. ..	1 1	17 11 1	125 4 9	46	..	3 6 11	1 8 2	..	..	188 4 2	..	..	52 18 7	..	..	81 5 7	54 0 0	188 4 2	..	
WESTON UNDERWOOD	2 3	10 17 5	..	28	9	..	..	..	..	193 10 11	..	..	24 16 4	..	68 2 2	42 1 8	58 10 9	193 10 11	..	
WILLIN .. ..	1 1	2 19 11	..	8	..	..	..	..	..	47 17 5	..	4 17 1½	15 4 5	..	..	23 13 0	4 2 10½	47 17 5	..	
WOBBURN SANDS ..	1 3	41 3 9	334 17 9	96	100	7 4 9	1 1 9	..	..	10 19 11	..	..	4 17 11	..	..	6 2 0	..	10 19 11	..	
WOOLSTONE, GREAT ..	0 4	17 8	1 2 0	4	..	..	..	..	..	580 8 0	..	..	53 8 4	..	38 8 6	91 0 2	397 11 0	580 8 0	..	
WOOLSTONE, LITTLE ..	1 2	3 2 9	1 11 7½	8	..	..	..	..	..	5 19 8	..	..	2 14 5	..	..	2 3 3	1 2 0	5 19 8	..	
WOUGHTON .. ..	1 2	16 9 2¼	..	42	9	..	40 6 0	..	..	12 14 4½	..	..	4 4 0	..	..	6 18 9	1 11 7½	12 14 4½	..	
TOTAL .. ..	105 3	757 17 2¼	1246 11 7¼	2019	1171	12 11 8	192 16 10	..	12 14 1	5412 11 5½	4 18 3	39 2 5½	1091 9 0	..	1300 19 10½	1693 1 7¾	1283 0 2¾	5412 11 5½	..	



LADY-DAY, 1909

## Rural District Council.

Rural District Council.																				
PARISHES.	Mileage of District Roads.	Balance in favour of each Parish at the commencement of this Half-Year.		Receipts.				Balance against each Parish at the end of this Half-Year.		Total.	Balance against each Parish at the commencement of this Half-Year.		Expenditure.			Balance in favour of each Parish at the end of this Half-Year.		Total.		
		General Expenses.	Special Expenses.	Contributions paid during this Half-Year.		ther Receipts during this Half-Year.		General Expenses.	Special Expenses.		General Expenses.		General Expenses.		Special Expenses.	Public Health & Highways.	Other Expenses.		General Expenses.	Special Expenses.
				General Expenses.	Special Expenses.	General Expenses.	Special Expenses.				General Expenses.	Special Expenses.	General Expenses.	Special Expenses.						
ASTWOOD ..	2 0	£ 10 s. 7 d. 10	£ 13 s. 14 d. 4½	£ 14	£ ..	£ ..	£ ..	£ ..	£ ..	£ 38 s. 2 d. 2½	£ ..	£ ..	£ 17 s. 19 d. 9	£ ..	£ ..	£ 6 s. 8 d. 1	£ 13 s. 14 d. 4½	£ 38 s. 2 d. 2½		
BRADWELL ..	3 6	145 16 3	256 19 6¼	196	558 0 0	..	35 9 2	..	..	1192 4 11¼	..	..	255 19 4	..	550 17 8	85 16 11	299 11 0¼	1192 4 11¼		
BRADWELL ABBEY ..	....	29 1 2	5 8	42	..	..	..	..	..	71 6 10	..	..	51 12 10	..	..	19 8 4	5 8	71 6 10		
BRICKHILL, BOW ..	5 0	32 17 2	71 12 3¼	48	40 0 0	1 0 0	8 11 11	..	..	202 1 4¼	..	..	58 18 9	..	27 17 11	22 18 5	92 6 3¼	202 1 4¼		
BRICKHILL, GREAT ..	7 0	42 10 11	70 16 2	54	9 0 0	..	..	..	..	176 7 1	..	..	71 5 3	..	14 16 10	25 5 8	64 19 4	176 7 1		
BRICKHILL, LITTLE ..	1 4	22 1 1	19 4 8	30	20 0 0	..	7 17 0	..	..	99 2 9	..	..	39 4 3	..	18 15 8	12 16 10	28 6 0	99 2 9		
BROUGHTON ..	1 4	9 9 0	..	16	..	..	..	..	..	25 9 0	..	..	17 6 6	..	..	8 2 6	..	25 9 0		
COLD BRAFIELD ..	0 4	10 7 1	7 16 10	14	..	..	..	..	..	32 3 11	..	..	18 11 6	..	..	5 15 7	7 16 10	32 3 11		
CASTLE THORPE ..	0 7	140 11 8	26 14 4½	190	36 0 0	..	..	..	..	393 6 0½	..	..	243 7 2	..	57 11 10	87 4 6	5 2 6½	393 6 0½		
CHICHLEY ..	1 0	16 14 9	4 15 7½	22	..	..	..	..	..	43 10 4½	..	..	28 14 1	..	..	10 0 8	4 15 7½	43 10 4½		
CLIFTON REYNES ..	4 0	18 16 0	11 0 1½	28	..	1 10 0	..	..	..	59 6 1½	..	..	33 16 1	..	19 8	14 9 11	10 0 5	59 6 1½		
EMBERTON ..	2 4	29 14 1	1 5 5½	36	35 0 0	..	1 9 7	..	..	103 9 1½	..	..	48 13 8	..	15 18 4	17 0 5	21 16 8½	103 9 1½		
GAYHURST ..	2 4	15 14 6	..	22	..	..	..	..	..	37 14 6	..	..	27 5 6	..	..	10 9 0	..	37 14 6		
HANSLOPE ..	8 0	217 18 2	8 3 5¼	290	55 0 0	..	2 14 3	..	9 8 0¼	583 3 11	..	..	377 2 1	..	75 5 9	130 16 1	..	583 3 11		
HARDMEAD ..	1 6	8 9 10	..	12	..	..	..	..	..	20 9 10	..	..	14 9 11	..	..	5 19 11	..	20 9 10		
HAVERSHAM ..	1 5	52 8 7	10 5 3	68	..	..	..	..	..	130 13 10	..	..	90 1 10	..	..	30 6 9	10 5 3	130 13 10		
LATHBURY ..	1 1	14 9 4	..	24	..	..	..	..	..	38 9 4	..	..	27 7 7	..	..	11 1 9	..	38 9 4		
LAVENDON ..	1 2	25 5 5	44 18 1½	34	44 0 0	..	..	..	..	148 3 6½	..	..	43 9 7	..	22 8 9½	15 15 10	66 9 4	148 3 6½		
LINFORD, GREAT ..	4 5	34 10 5	13 6 7¼	48	9 0 0	..	..	..	..	104 17 0¼	..	..	61 6 9	..	2 19 0	21 3 8	19 7 7¼	104 17 0¼		
LINFORD, LITTLE ..	1 0	9 9 3	..	16	..	..	..	..	..	25 9 3	..	..	18 2 10	..	..	7 6 5	..	25 9 3		
LOUGHTON ..	2 2	146 7 8	36 15 5	198	..	..	..	..	..	381 3 1	..	..	254 9 2	..	25 16 1	89 18 6	10 19 4	381 3 1		
MILTON KEYNES ..	3 2	19 17 3	11 18 11	30	9 0 0	..	..	..	..	70 16 2	..	..	36 3 7	..	3 4 6	13 13 8	17 14 5	70 16 2		
MOULSOE..	2 6	12 18 10	..	18	..	..	..	..	..	30 18 10	..	..	22 13 3	..	..	8 5 7	..	30 18 10		
NEWTON BLOSSOMVILLE ..	3 6	10 17 7	..	16	9 0 0	..	..	..	..	35 17 7	..	1 3 11½	20 8 4	..	2 9½	6 9 3	7 13 3	35 17 7		
NEWTON LONGVILLE ..	4 6	30 4 4	23 10 4½	42	9 0 0	..	..	..	..	106 14 8½	..	..	54 2 3	..	2 5 6	20 2 1	30 4 10½	106 14 8½		
NORTH CRAWLEY ..	9 2	33 12 4	..	44	20 0 0	2 0	6 18 7	..	..	102 12 11	..	11 10 1½	55 11 5	..	4 10 6½	20 2 11	10 17 11	102 12 11		
OLNEY ..	1 4	127 13 6	44 16 8¾	176	160 0 0	..	..	..	..	508 10 2¾	..	..	224 10 8	..	143 17 7½	79 2 10	60 19 1¼	508 10 2¾		
OLNEY PARK ..	....	2 10 7	..	..	..	..	..	..	..	2 10 7	..	..	1 7 0	..	..	1 3 7	..	2 10 7		
PETSOE MANOR ..	....	3 0 5	..	2	..	..	..	..	..	5 0 5	..	..	4 0 1	..	..	1 0 4	..	5 0 5		
RAVENSTONE ..	4 0	13 18 5	2 0 6½	20	9 0 0	..	..	..	..	44 18 11½	..	..	26 1 0	..	..	7 17 5	11 0 6½	44 18 11½		
SHENLEY CHURCH END ..	2 4	20 9 1	30 7 10	30	..	..	..	..	..	80 16 11	..	..	36 4 7	..	9 7 7	14 4 0	21 0 3	80 16 11		
SHERINGTON ..	2 3	25 18 8	29 8 10	36	9 0 0	..	..	..	..	100 7 6	..	..	45 10 4	..	10 6	16 8 4	37 18 4	100 7 6		
STANTONBURY ..	1 0	8 8 3	..	12	..	..	..	..	..	20 8 3	..	..	14 19 7	..	..	5 8 8	..	20 8 3		
STOKE GOLDINGTON ..	1 5	22 15 3	1 19 11	32	9 0 0	..	..	..	..	65 15 2	..	..	39 15 0	..	6 0	15 0 3	10 13 11	65 15 2		
TYRINGHAM & FILGRAVE ..	2 5	24 2 8	..	36	..	..	..	..	..	60 2 8	..	..	44 2 10	..	..	15 19 10	..	60 2 8		
WALTON ..	1 0	11 0 6	11 14 7	18	9 0 0	..	..	..	..	49 15 1	..	..	21 5 8	..	17 5 9	7 14 10	3 8 10	49 15 1		
WARRINGTON ..	0 2	4 2 8	..	4	..	..	..	1 10 8	..	9 13 4	..	..	9 13 4	..	..	..	..	9 13 4		
WATER EATON..	2 0	81 5 7	54 0 0	112	..	..	..	..	..	247 5 7	..	..	142 9 6	14 0	..	50 2 1	54 0 0	247 5 7		
WAVENDON ..	1 1	42 1 8	58 10 9	48	..	3 7 8	..	..	..	152 0 1	..	..	66 16 6	..	29 3 10	23 5 2	32 14 7	152 0 1		
WESTON UNDERWOOD ..	2 3	23 13 0	4 2 10½	32	9 0 0	..	..	..	..	68 15 10½	..	..	40 19 7	..	..	14 13 5	13 2 10½	68 15 10½		
WILLEN ..	1 1	6 2 0	..	12	..	..	..	..	..	18 2 0	..	..	13 3 10	..	..	4 18 2	..	18 2 0		
WOBURN SANDS ..	1 3	91 0 2	397 11 0	108	100 0 0	..	1 1 9	..	..	697 12 11	..	..	148 3 3	..	127 13 3	50 16 11	370 19 6	697 12 11		
WOOLSTONE, GREAT ..	0 4	2 3 3	1 2 0	8	..	..	..	..	..	11 5 3	..	..	7 6 5	..	..	2 16 10	1 2 0	11 5 3		
WOOLSTONE, LITTLE ..	1 2	6 18 9	1 11 7½	8	..	..	..	..	..	16 10 4½	..	..	11 3 6	..	..	3 15 3	1 11 7½	16 10 4½		
WOUGHTON ..	1 2	35 6 8½	12 10 3½	50	9 0 0	..	..	..	7 16 8½	114 13 8½	..	..	62 4 7½	..	29 7 0	23 2 1¼	..	114 13 8½		
TOTAL....	105 3	1693 1 7¾	1283 0 2¼	2296	1167 0 0	5 19 8	64 2 3	1 10 8	17 4 9¼	6527 19 2¾	..	12 14 1	2948 0 6½	14 0	1181 2 5	1044 9 9¼	1340 18 5	6527 19 2¾		



ANNUAL REPORT  
OF THE  
**PUBLIC HEALTH**  
OF THE  
NEWTON ABBOT RURAL  
NEWTON ABBOT URBAN  
AND  
DAWLISH URBAN  
SANITARY DISTRICTS.

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For 1908.

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BY  
**H. B. MAPLETON, M.A., M.D., D.P.H.,**  
MEDICAL OFFICER OF HEALTH.

COMPARATIVE TABLE.

PLACES, 1908.	Birth-rate.	Annual death-rate per 1,000 of population.									Deaths under one year to every 1000 births.
		Total Death-rate.	From Seven Zymotics.	Small-pox.	Measles.	Whooping Cough	Scarlatina.	Diphtheria.	Continued Fevers, Typhoid, &c.	Diarrhœa.	
England & Wales *	26·2	14·7	·99	...	·13	·25	·06	·15	·07	·33	110
Newton Abbot Rural	20·2	13·0	1·2	...	·53	·48	...	·16	..	...	78
Newton Abbot Urban	20·1	15·7	2·5	...	1·4	·37	...	·37	·07	·30	125
Dawlish Urban .....	20·7	15·7	·75	...	...	·25	...	...	·25	·25	169

\* less 218 towns.

DEATHS IN PUBLIC INSTITUTIONS IN THE THREE DISTRICTS.

Districts.	Institutions	Local Distribution of Mortality							
		Newton Urban	Newton Rural	Dawlish	Torquay	Teignmouth	Ashburton	Visitors.	Total
Newton Rural	Moreton Cottage Hospital	...	2	...	...	...	...	...	2
	Torquay Isolation Hospital	...	...	...	4	...	...	...	4
Newton Urban	Union House .....	20	20	3	36	7	1	...	87
	Hospital .....	10	3	...	...	...	...	...	13
	Isolation Hospital .....	5	...	...	...	...	...	...	5
Dawlish Urban	Cottage Hospital.....	...	...	6	...	...	...	2	8
	Totals.....	35	25	9	40	7	1	2	119



## RAINFALL IN 1908.

I give below statistics for 13 stations in the three districts. Taking the whole year it will be seen that with respect to the 12 in which comparison is possible with the previous year, a considerable decrease was recorded, varying from 4·56 inches at Leusden to 11·44 at Trusham, with a mean of 8·61. The greatest deficiency was in the Moreton district, and the gathering ground of the Torquay waterworks at Hennock experienced the lowest rainfall since 1887. As usual, the smallest amount fell on the two coast stations in the extreme east of the district, Dawlish East and West, with 23·24 and 21·99 respectively—while Leusden showed again far the highest figure—54·90. On comparing these records with the mean of a number of preceding years, all except the Blackingstone, which has 1·58 inches to the good, show substantial decreases, varying from 5·78 at Highweek (7 years) to 11·02 at Moreton Rectory (7 years). There was, however, no long period of actual drought, though least rain fell in June, when only 4 out of 13 stations recorded over 1 inch. January, February and November were also all deficient, and these are winter months on which the deeper springs depend for their supply, owing to the fact that evaporation is less active. Under these circumstances, however, the water supplies generally held out very well, and there were few complaints; though one parish which has suffered considerably of late years has obtained an accessory supply which was available in the summer months.

### RAINFALL IN INCHES.

STATIONS.	Height in feet above sea level	January	February	March	April	May	June	July	August	September	October	November	December	Total 1908.	1907	Average
Broadhempston, School.....	135	1·97	2·51	4·10	3·05	1·98	·52	2·38	5·57	2·58	2·50	1·37	5·61	34·14	43·50	...
Dawlish East, Lawn .. .....	18	1·04	1·63	3·06	2·34	1·65	·42	1·00	2·62	2·56	2·57	1·07	3·28	23·24	30·55	31·75
Dawlish West, Vicarage ...	60	·64	1·20	2·68	2·42	1·48	·58	1·11	3·43	1·85	2·47	1·04	3·09	21·99	27·46	28·73
Haldon, Thorns .....	550	1·15	1·28	3·12	1·75	2·61	·98	1·78	4·16	3·92	2·34	1·34	3·12	27·55	36·75	...
Hennock, Mardon .....	810	1·58	2·17	4·47	2·60	2·37	1·26	1·88	4·40	3·11	2·99	1·73	3·83	32·39	41·03	40·95
Highweek, Newton Abbot	250	1·40	2·09	3·54	2·50	1·65	·48	1·48	5·02	2·67	2·68	1·23	4·52	29·17	37·50	34·95
Ideford, Rectory ...	300	·98	1·85	3·39	2·47	1·60	·57	1·38	4·99	2·75	2·63	1·06	3·70	27·37	36·40	33·84
Kingskerswell, South Hill	270	·93	1·25	2·99	2·47	1·52	·34	1·28	4·86	2·81	2·69	·76	4·20	26·10	33·67	32·24
Leusden, School .....	900	4·60	4·42	7·51	4·02	4·34	1·07	4·52	9·78	4·37	2·57	2·38	5·32	54·90	59·46	...
Manaton, School .....	900	1·30	2·87	5·52	3·00	2·64	1·01	2·89	6·14	2·73	2·62	2·18	3·88	36·78	...	...
Moreton, Blackingstone.....	1090	1·86	2·26	4·64	2·82	2·44	1·09	1·76	4·10	2·98	2·95	1·99	4·74	33·63	44·68	32·05
Moreton, Rectory .....	600	1·97	2·41	4·78	2·83	1·92	·81	1·76	4·72	2·16	2·29	1·72	3·78	31·15	42·47	42·17
Trusham, Rectory .....	320	1·05	1·76	3·58	1·91	1·86	·72	1·36	1·24	2·63	2·35	·95	3·84	26·25	37·69	36·56

The averages in the last column are for 6 years at Dawlish East; 7 at Highweek and Moreton Rectory; 12 at Dawlish West; 12 at Blackingstone; 13 at Kingskerswell; 21 at Ideford and Trusham; and 31 at Hennock.

I am indebted for the above figures to the Revs. C. F. Benthal (West Dawlish); O. H. Cary (Trusham); S. Dewey (Moreton Rectory); and G. J. Ford (Ideford); Messrs. J. Bancroft (Leusden); S. C. Chapman, Water Engineer to the Torquay Corporation (Blackingstone and Mardon); S. F. Churchward, Surveyor (Dawlish East, and The Thorns); E. A. Foster (Kingskerswell); F. H. Jones (Manaton); and J. C. Mole (Broadhempston.)

# ANNUAL REPORTS,

 1908. 

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## I.—NEWTON ABBOT RURAL.

PHYSICAL CHARACTERS.—The district presents two distinct features. The central portion is occupied by a low-lying area of irregular shape, being 8—9 miles by 2—3 in its greatest dimensions, and drained by the river Teign and its tributaries. This was formerly the site of a lake belonging to the miocene geological period ; and the soil is composed of beds of clay, quartzose sand—the washings from the surrounding hills—and lignite, which have at one point been ascertained to attain a depth of over 500 feet. The working of this clay constitutes a special source of trade and wealth in the neighbourhood. This level area is bounded by hills of red breccia or sandstone (on the coast), greensand, shales and limestone ; to the westward by the igneous bosses of Dartmoor, which rise from the valley to an elevation of 1,560 feet at Rippon Tor, and culminate on the margin of the district in the mass of Hameldown, 1,750 feet above sea level. These constitute uplands, which, with their wooded slopes, pure moor breezes, and abundance of water, are altogether faultless as far as natural endowments go. Thus the varieties of climate are well marked—the warm and sheltered coombes, luxuriant in foliage, which run down to the sea, or the Teign valley—as at Bishopsteignton, Coombe, or Lustleigh—are at one end of the scale ; whereas at the other lie Moretonhampstead, Manaton, and Ipplepen, on uplands of considerable elevation, and with lower barometric pressure.

OCCUPATION. — Dairy farming and agriculture constitute the chief means of livelihood in large portions of the district ; the clay workings, however, in the Teign valley, from which the raw material is shipped to all parts of the world, are also an important industry. There are potteries at Kingsteignton, Heathfield, Bovey Tracey, and Aller, and the trade affords occupation in the



aggregate for several hundred workers, who live in the adjacent towns and villages.

Quarries for building and road-making stone are numerous, the principal being at Trusham, where about 100 men are employed. Of late years, there has been some revival of the tin and copper mining, especially at Vitifer, near Widecombe, and micaceous iron is found in the vicinity of Lustleigh; this is, however, not very considerable at present.

No special diseases have come under notice as the result of these occupations.

The northern and moorland parts, being attractive in situation and scenery, are residential to some extent; lodging and boarding houses and hotels are numerous.

The district has an acreage of 99,142, and a population at the census of 1901 of 18,902; it includes 28 parishes, varying in density from those containing the small towns of Bovey, Chudleigh, Kingsteignton, and Moretonhampstead, to the purely rural and thinly inhabited areas of Manaton, Widecombe, and Woodland. At the time of the above census there were 4,229 houses, with an average of 4·5 persons per house; since then, however, plans for 460 new houses have been passed, mostly in parishes which, like Bovey, Moreton, and Kingsteignton, are urban in their character, and to a lesser degree in localities attractive to visitors, such as Lustleigh and the immediate neighbourhood of Haytor. There has been no change in the constitution of the district during the past 6 years, and for the purpose of calculating the various rates given in the accompanying tables, I have left the census figures unchanged.

**VITAL STATISTICS.**—The number of deaths occurring actually in the district was 225, but to these must be added 20 from the Union House at Newton, 3 from the Newton Hospital, and 2 from the County Asylum at Exminster, while 4 occurring in the Torquay Sanatorium in persons belonging to that town are deducted. This gives a nett total of 246, of whom 125 were males and 121 females, resulting in an annual death rate of 13·0 per 1,000. This is ·6 below that of 1907 and also 2 points below the average for the preceding 10 years (15·0); on only two occasions has a better figure been recorded, viz.: 12·3 in 1896, and 12·5 in 1903, and of these the former is somewhat discounted by the fact that deaths in the Union House among residents were not then included. If these are excluded, the rate is reduced to

# Death Rates, &c., in each Parish.

PARISHES.	Census 1901.		Ordinary Zymotics							Influenza.	Phthisis	Other Tubercular Diseases	Cancer	Apoplexy.	Infantile Inanition.	Violence.	Belonging to parishes		Total Deaths.	Death Rates.	
	Population.	Average	Small Pox	Scarlatina.	Diphtheria.	Whooping Cough	Measles.	Diarrhoea	Continued Fevers								Union House	County Asylum		1908	Average for yrs 1898-1907
Abbotskerswell ...	457	1486	..	..	..	..	..	..	..	1	..	..	2	1	..	1	..	..	8	174	124
Bickington.....	215	1403	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	5	232	155
Bishopsteignton ...	1076	4449	..	..	..	1	..	..	..	..	1	..	1	..	..	..	..	1	18	167	149
Bovey Tracey .....	2691	7567	..	..	..	3	..	..	..	..	2	1	2	..	..	..	1	..	20	74	126
Broadhempston ...	445	2200	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	4	90	219
Buckland .....	87	1493	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	115	74
Chudleigh .....	1820	6128	..	..	..	..	..	..	..	..	1	3	1	2	..	1	2	..	23	126	172
Cockington .....	265	1451	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	226	146
Coffi'swell & D'cm'be	201	1152	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	5	249	114
Coombe & Haccombe	358	2004	..	..	..	..	..	..	..	..	2	..	1	1	..	..	2	..	5	140	92
Dawlish (West) ...	678	3870	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	6	88	119
Denbury & Torbrian	418	3002	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	4	89	138
Hennock.....	711	3299	..	..	..	..	4	..	..	..	..	..	..	1	..	..	..	..	9	126	131
Ideford .....	254	1440	..	..	..	..	..	..	..	2	3	..	2	1	..	..	..	..	2	79	110
Ilington .....	886	7843	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	12	135	142
Ipplepen .....	789	2887	..	..	..	..	..	..	..	..	2	..	2	..	..	1	3	..	9	114	149
Kingskerswell .....	1027	1797	..	..	..	..	1	..	..	..	..	..	2	1	..	1	6	..	12	117	157
Kingsteignton .....	1942	3975	..	..	1	2	1	..	..	3	1	1	3	..	..	2	..	..	38	196	179
Lustleigh .....	400	2978	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	150	111
Manaton .....	315	6422	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	3	95	123
Moretonhampstead	1541	7910	..	..	..	1	3	..	..	..	1	..	2	1	2	1	1	..	23	149	187
North Bovey.....	398	5589	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	4	101	101
Ogwell .....	250	2089	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	3	120	159
Stoke .....	463	2167	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	4	86	154
Teigngrace .....	190	1496	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	105	71
Trusham .....	165	625	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	5	303	146
Widcombe .....	657	10786	..	..	..	2	1	..	..	..	..	..	..	1	..	1	..	..	8	122	139
Woodland .....	170	1634	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	59	96
Totals.....	18902	99142	..	..	3	9	10	..	..	6	15	6	18	12	3	10	20	2	246	130	150



11·8—a figure only surpassed in 1903. Deaths in public institutions are somewhat above the average; I give on page 2 a table showing the institutions in the three districts and the local distribution of the mortality they afforded. The highest mortality—though the difference was not great—was registered in the first and last quarters of the year, while December, with 28 deaths, March (25) and June (24) were the most fatal months. Sixty-seven deaths were recorded in the first quarter, 62 in the second, 53 in the third, and 64 in the fourth, giving rates per 1,000 per annum of 14·2, 13·1, 11·2, and 13·5 respectively.

#### CHIEF CAUSES OF FATALITY.

7 chief zymotic diseases ... ..	22 deaths
Other septic „ ... ..	3 „
Influenza ... ..	6 „
Constitutional diseases ... ..	45 „ (18 cancer; 15 phthisis)
Diseases of the nervous system	29 „ (12 apoplexy)
„ „ respiratory „	36 „
„ „ circulatory „	31 „
„ „ urinary „	5 „
„ „ digestive „	10 „
„ „ generative organs	1 „
„ „ parturition ...	1 „
Alcoholism ... ..	4 „
Infantile debility ... ..	3 „
Premature birth ... ..	10 „
Old age ... ..	30 „
Violence ... ..	10 „ (accident, 7; suicide, 3)

#### AGE INCIDENCE.

Under the age of 1 year	there were	30 deaths
Between 1 and 5 years	„ „	23 „
„ 5 and 15 „	„ „	6 „
„ 15 and 25 „	„ „	4 „
„ 25 and 65 „	„ „	83 „
Over 65 years	„ „	100 „

Thus 12·2 per cent. of the deaths were under 1 year of age, and 40·6 per cent. over 65 years; neither of these are so favourable as the figures of the preceding year, which worked out at 10·5 and 45·9 respectively. The average age at death was 49·6 years; this was 51·9 in 1907 and 51·2 in 1906.

THE INFANTILE MORTALITY, or number of deaths under 1 year to 1,000 births was 78, an increase of 6 as compared with the low figure of the previous year, but 31 below the decennial average.

The causes of infantile mortality were :—Measles, 2 ; whooping cough, 4 ; septic diseases, 1 ; constitutional diseases, 1 ; diseases of the nervous system, 3 ; of the respiratory system, 7 ; debility, 2 ; and premature birth, 10. Thus the latter cause was responsible for one third of the total deaths, while measles and whooping cough contributed a considerable proportion of the remainder.

The births of 209 boys and 174 girls give an annual rate of 20·3 per 1,000 ; this is a fraction better than that of 1907, which all but constituted a record, but it is still 1·5 below the average for the preceding 10 years. One hundred and six births were registered during the first quarter, 89 in the second, 101 in the third, and 87 in the fourth, giving rates per 1,000 per annum of 22·4, 18·8, 21·3, and 18·4 respectively. The natural increase of population, or excess of births over deaths, reckoning the mortality in the large public institutions, was 137, or 7·2 per 1,000, as against 118 in 1907, and 156 in 1906.

In comparison with previous years the figures for 1908 to a certain extent reproduce the conditions of 1907, in that they show a low birth rate combined with a small death rate and infantile mortality. The former indicates, however, a slight improvement, while the death rate has decreased in a somewhat similar degree. This figure may be considered as very satisfactory, taking into account the high mortality from measles and whooping cough, and it will be seen that these two diseases alone added more than 1 per 1,000 to the total. The infantile mortality, while slightly greater, still compares very favourably with the low figure of the two preceding years, and here again the prevalence of measles and whooping cough exercised a marked effect.

The zymotic rate was 1·2—just double that of 1907, and was accounted for by 10 fatalities from measles, 9 from whooping cough, and 3 from diphtheria. The absence of any mortality from scarlatina, diarrhoea, and typhoid fever—in the latter case for the first time since 1892—is worthy of note.

Under the other chief headings, deaths from the tubercular group (21) are rather less than the figures of 1907 (22) and well below the mean of 27. Cancer, which has for some years past tended to advance, dropped from 23 to 18, and compares favourably with the decennial average (20). Respiratory diseases also decreased by about one fourth, which is contrary to the general experience in the presence of widely spread epidemics of measles and whooping cough. Deaths from violence



COMPARATIVE TABLE—SUB-REGISTRATION DISTRICTS.

SUB-REGISTRATION DISTRICTS.	Population.	BIRTHS.		DEATHS.										MORTALITY FROM SUBJOINING CAUSES.																	
		Registered.	Birth-rate per 1,000.	At all Ages.	Death-rate per 1,000.	Under 1 year.			1 and under 5.	over 65 years.	Under 1 Year to every 1000 births	Belong- ing to district.		Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Diarrhœa.	Contin'd Fev'rs (Typhoid, &c.)	Total deaths from 7 Zymotics	Zymotic Death Rate per 1,000	Phthisis.	Other Tubercu- lar Diseases.	Bronchitis, Pleu- risy, Pneumonia.	Heart Diseases.	Cancer.	Violence.	All Other Diseases.		
						Under 1 year.	1 and under 5.	over 65 years.				In Union House	In County Asylum.																		
Newton Rural	4,434	97	21.9	70	15.8	5	8	28	52	9	4	2	2	3	1	...	...	1	2	...	...	4	7	.90	4	8	6	6	4	3	37
Chudleigh	5,644	120	21.3	59	10.5	7	8	20	58	4	2	...	...	...	4	...	...	...	...	...	...	5	5	1.2	3	4	11	4	1	1	23
Ashburton Rural	2,460	39	15.9	31	12.6	6	3	11	154	...	...	...	...	...	...	...	...	...	...	...	...	4	4	2.0	...	...	2	3	1	1	14
Moretonhampstead	2,654	61	23.0	35	13.2	7	3	14	115	2	2	1	...	...	...	...	...	...	...	...	...	2	2	1.5	1	6	3	7	1	3	17
Sea-border	3,710	66	17.8	51	13.7	5	1	27	76	3	...	...	...	...	...	...	...	...	...	...	...	2	2	.54	4	...	8	3	1	3	35
TOTALS, 1908.....	18,602	383	20.3	246	13.0	30	23	100	78	20	2	...	...	...	10	...	3	9	...	...	22	1.2	15	6	31	28	18	10	116		
Average for 10 yrs. } 1898-1907.	19,678	430	21.8	296	15.0	47	18	125	109	18	...	...	...	4.5	...	...	2	4	2.5	3	16	.81	19	8	43	37	20	12	141		
1907	18,902	375	19.8	257	13.6	27	17	118	72	17	6	...	...	...	6	...	2	...	2	2	12	.63	18	4	43	31	23	17	109		
1906	18,902	428	22.6	272	14.4	29	8	120	68	17	3	...	...	...	2	...	3	...	4	2	14	.74	16	6	33	38	26	12	127		
1905	18,902	422	22.3	294	15.5	39	14	130	92	25	4	...	...	...	6	...	...	...	3	2	15	.79	22	10	34	39	26	7	141		
1904	18,902	412	21.8	285	15.1	50	21	119	121	17	...	...	...	3	...	...	...	...	3	2	17	.90	23	6	35	38	22	7	137		
1903	18,902	344	18.2	236	12.5	29	14	99	84	18	...	...	...	3	...	...	4	...	...	5	13	.69	16	8	31	29	18	15	106		

(10) were also less numerous, and receded to a position below the mean for the preceding 10 years. In all these respects, therefore, the comparison is a favourable one.

Of the sub-registration districts, **Chudleigh** perhaps yielded the most favourable returns. The death rate was only 10·5, and is, therefore, 2·5 below that for the whole district. The infantile mortality of 58 is all but the lowest, while the birth rate, though only third, is a point above the collective figure. On the other hand, the zymotic rate was somewhat high, but it is wholly accounted for by measles and whooping cough, which fell somewhat heavily on one or two parishes. There were, however, 7 deaths from the tubercular group—one-third of the total—but only 4 from cancer. With the exception, therefore, of the zymotic rate, which has but little sanitary significance in this instance, the district has more than maintained its good position of the previous year.

**Ashburton** has also a death rate below the mean, and exactly equal to that of 1907, but on the other hand the infantile and zymotic rates are considerably the highest in the group. The latter (2·0) is due to 3 deaths from whooping cough and 1 each from measles and diphtheria. With a high infant mortality, the proportion of senile deaths is, as might be expected, small, and the birth rate is the lowest. Phthisis, respiratory diseases, and cancer were each responsible for 3 deaths.

**Sea Border** had a death rate of 13·7, as compared with the low figure of 1907 (10·2)—a considerable increase. The infantile mortality (76) was also much higher—again, however, in comparison with a very good return (34)—and still below the mean of the district. The zymotic rate of ·54 is accounted for by 1 death each from measles and diphtheria, and in this particular is at the head of the list. The birth rate, though all but the lowest, has made an appreciable advance from 15·6 to 17·8. The tubercular group contributed 5 deaths and cancer 3 to the total, while in the previous year these figures were 1 and 5 respectively. The proportion of senile deaths—53 per cent.—deserves notice.

**Moretonhampstead** had a general death rate of 13·2—a small fraction higher than that of the whole district—showing a decline of 1·5 as compared with the previous year. The infantile mortality was, however, large, and all but the highest, but notwithstanding this the proportion of senile deaths was 40 per cent., the birth rate of 23



per 1,000 easily the best and a considerable advance on the figure for 1907 (18·8). The zymotic rate of 1·5 was, like that of Chudleigh, entirely due to measles and whooping cough. Phthisis and cancer, with 1 and 2 fatalities respectively, show a favourable comparison with 1907, when these diseases were responsible for 11 deaths between them. Violence (3), on the other hand, added over 1 per 1,000 to the general death rate.

**Newton Rural** presented under the various items a somewhat marked contrast. The general death rate of 15·8 was by far the highest of the sub-districts, and was more than a point in excess of that of 1907. On the other hand, the infantile mortality of 52 was equally the lowest—an exceedingly good figure, and little more than half that of the preceding year. The proportion of senile deaths was, as in Moreton, just 40 per cent. The zymotic rate of ·90—well below that for the whole district—was due to 2 deaths from whooping cough and 1 each from measles and diphtheria, while the birth rate was second, occupying the same position as in 1907, with a somewhat increased return. Tubercular diseases were responsible for 5 and cancer for 6 fatalities, while out of the total of 70, 9 took place in the Union House in former residents. Four deaths from violence were registered, while the respiratory group only contributed half the mortality of 1907.

**ZYMOTIC DISEASE.**—To the seven ordinary zymotic diseases, 22 deaths were assigned, as compared with 12 in 1907 and 14 in 1906, viz.: 10 to measles, 9 to whooping cough, and 3 to diphtheria, giving an annual rate of 1·16 per 1,000, of which 1·01 was entirely due to measles and whooping cough; the decennial average works out at ·81.

The notifications were 50 in number, as compared with 44 in 1907 and 60 in 1906; these comprised 11 scarlatina, of which 4 were in Newton Rural, 1 in Chudleigh, and 6 in Sea Border; 4 typhoid fever, of which 3 were in Newton Rural and 1 in Chudleigh; 30 diphtheria, of which 17 were in Newton Rural, 2 in Ashburton, and 11 in Sea Border; 4 erysipelas, of which 2 were in Newton Rural and 2 in Ashburton; and 1 puerperal fever in Chudleigh. Thus the total number of cases of notifiable disease in the various sub-districts was—Newton Rural, 26; Chudleigh, 3; Ashburton, 4; and Sea Border, 17. The Moretonhampstead district alone had a clear record during the year.

The following table shows the monthly incidence :—

DISEASE.	January	February	March	April.	May	June	July.	August	September	October.	November	December	Total
Small Pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina .....	...	...	...	...	1	1	...	1	3	2	2	1	11
Diphtheria .....	1	2	...	1	2	2	8	1	...	3	5	5	30
Typhoid Fever .....	...	...	...	...	...	...	1	1	2	...	...	...	4
Erysipelas .....	...	1	...	...	...	2	...	...	...	...	...	1	4
Puerperal Fever .....	...	...	1	...	...	...	...	...	...	...	...	...	1
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Total .....	1	3	1	1	3	5	9	3	5	5	7	7	50

MEASLES.—This disease, which had been prevalent in several of the southern parishes during the previous autumn and winter, gradually extended over the district during the year. In the early spring months Abbotskerswell and Coffinswell were affected, without, however, any fatalities, though there was a death at Kingskerswell. The school at Abbotskerswell was closed. A little later on, towards the summer, the central parts of the district suffered, and Chudleigh, Chudleigh Knighton, Heathfield, and Hennock were attacked by a widespread epidemic of somewhat severe type, the mortality, however, being confined to the parish of Hennock, which includes Chudleigh Knighton, where 4 deaths were registered. The schools at all these places were closed. In the late summer months Widecombe, North Bovey and Trusham also suffered, with one fatality in the first of these parishes; the schools were closed in the two latter. Towards the end of the year the disease spread from North Bovey to Moreton, where it soon became general, and being an unfavourable season three deaths resulted; the schools were closed for some weeks. Besides these general outbreaks, a few cases occurred at Manaton, Lustleigh, Ogwell, and Kingsteignton, with one fatality at the latter place. Thus during the past 18 months most of the district has been attacked.

WHOOPING COUGH also caused a considerable mortality, Bovey and Kingsteignton being the principal sufferers, with 3 and 2 deaths respectively, all being in the months of June and July. There were also 2 fatalities at Widecombe in the early spring, and one each at Moreton and Bickington.



As far as the schools are concerned with the above two diseases, my advice is as follows, in accordance with the recommendation of the Local Government Board :—

(1). That all infected children be excluded for one month from date of onset of illness.

(2). That all those in infected houses be excluded who have not previously had the disease.

(3). That all children under 5 be excluded while the outbreak lasts.

I do not recommend closure, being convinced of its failure, even in country districts, to stop the spread of disease, but if managers wish to close for financial reasons, am willing to give a certificate to that effect. In most cases schools continue open, as long as there are sufficient children to make it worth while to run them, but in one or two instances, as at Widecombe this year, a school remained open throughout the epidemic. Many of the cases are visited and cards containing a few simple instructions distributed.

SCARLATINA was responsible for 11 notifications, as compared with 12 in 1907, and 33 in 1906. Six of these were in the village of Bishopsteignton, but spread over three months, and as far as could be ascertained there was no particular connection between them. The first was a domestic servant and was so mild as not to be suspected till the peeling stage was well advanced ; this was towards the end of September. During the next month there were three more attacks, in young children—one was a case of mixed infection with diphtheria. Another was notified in November (a young adult), and a sixth (a young child), in December.

Kingsteignton was responsible for 4 cases, which occurred between June and October—6 months ; and of these two were in one house, the first being a child of 3, while subsequently an adult lodger was infected. This is the only instance of multiple attacks in the same family, though good isolation was not always obtainable in some instances where other children were under the same roof.

An isolated notification was reported from Bovey. The above were all of mild type and there were no fatalities ; two only were treated in hospital owing to want of accommodation for three simultaneous diseases. When, however, the new diphtheria block is completed in the the spring, this will be remedied.

Three were under 5 years of age ; 5 between 5 and 15

years ; two between 15 and 25 years ; and one over the latter age.

**TYPHOID FEVER.**—The district has been remarkably free from this disease during the past year, and only 4 cases were reported ; of these one (an adult at Bovey), obviously originated outside the district. The remaining three were all in Kingsteignton, one of which was associated with bathing in water of doubtful purity, while the others presented no very obvious cause ; there was, however, some slight history of association between two of them. All made good recoveries, and for the first time since 1892 there were no deaths. Three were removed to hospital, and the other treated at home ; one was under 5 years of age, two between 5 and 15 years, and one over 25 years.

**PUERPERAL FEVER.**—One case was reported at Chudleigh, in a young married woman ; all precautions seem to have been taken.

**ERYSIPELAS.**—Four notifications ; two in one house in an isolated farm at Woodland. This was a case of infection from a facial lesion to a slight abrasion on the second patient's arm and constitutes the first instance in my experience of any spread of the disease.

**DIPHTHERIA.**—30 notifications, as compared with 22 in the preceding year, and 11 in 1906. The majority of these were in the parishes of Kingsteignton and Bishops-teignton, though there were some scattered cases in half a dozen others. From the former 14 cases were reported, in two distinct groups, separated by an interval of three months. The first was in an outlying cottage in the beginning of June ; this child duly went to hospital and as there were no other young children in the house further spread seemed unlikely. A month later however 6 other attacks were reported, 5 of which were attending the National School, while the other was connected with the group by home associations. Examination of several contacts brought to light a nasal case, which had apparently been of some duration, and was at least a possible source of infection. As the holidays were close at hand, this school was, by my advice, closed for the remaining week, the desks, floors, and other wood-work, including pencils and pens, scrubbed with disinfectant, and this little outburst appeared to be over. Towards the end of the year, however, the disease again made its appearance, and six more were affected between November



4th and December 20th, accompanied by several sore throats, bacteriological examination of which was negative. These were not confined to one school, indeed one child was in the hamlet of Preston and had as far as I could discover no associations with Kingsteignton; the children from the few houses here attend the Teigngrace school. There was one fatality—almost the only case of any severity; in this instance the disease was laryngeal. All the above were young children.

Bishopsteignton was responsible for 7 notifications, but there was no definite outbreak. The first 4 were spread over the months of April, May and June; two were adults, one a child under three years of age, the other a school boy, and there was no very evident connection between them. Later in the year three others were affected, two of these being in one house and attending school; the third was a boy of 14, past the school age. There were no fatalities, and the only point of interest is that one of these children, a girl of 13, had the disease a year previously; at that time the attack was nasal, while on this occasion the tonsils and fauces were affected; the diagnosis was confirmed by swabs in each instance. All these made good recoveries.

At Kingskerswell two cases were reported in the beginning of February, but as far as could be ascertained were disconnected. Both were in adults, and in one a brother was reported to have had a sore throat a few days previously, but a bacteriological examination was negative; the type of disease was very mild.

Ogwell also provided two; one of these—an adult—evidently had an external origin, while the other was in a young child; they were separated by an interval of two months.

In the somewhat isolated village of Ilsington a rapidly fatal attack—the illness only lasted four days—occurred in the beginning of July. This boy had been attending school, and I found on enquiry that a few days previously a little girl—who also attended the school, though not in the same class—had come on a visit from a village outside the district. This child's sister was affected with the disease about the same time, and a bacteriological examination, though negative as regards diphtheria, showed Hoffman's bacillus, which I have occasionally had reported from throats previously diphtheritic. I do not think the evidence was altogether conclusive, but it seemed at least to afford a possible explanation. The other notification

was in November, in another part of the same parish ; there is nothing worthy of note concerning it.

Single attacks were reported at Cofton, Teigngrace, and Dacombe. That at Teigngrace was an old man of 69 years, while the other two were aged 14 and 8 respectively ; the latter resulted fatally.

Of the above 30 cases, there were three instances where two in the same house were affected ; two simultaneously and the third at a short interval. Five were between the ages of 1 and 5 years, 19 between 5 and 15 years, 1 between 15 and 25 years, 4 between 25 and 35 years, and 1 over 65 years. Sixteen were removed to hospital and the remainder treated at home. The usual disinfectant precautions were taken and healthy children in the same household excluded from school for 14 days from the Monday following the last exposure to infection. Those actually affected are excluded for a further period of three weeks after return from hospital, or in the case of those nursed at home from the time of disinfection. In these latter swabs are taken either by myself or the medical man in attendance. Antitoxin is provided by the authority and is freely used, while swabs taken by doctors for diagnostic purposes, or on recovery, are also paid for. There were in all three fatalities, two of them isolated cases as far as the locality involved was concerned.

#### ISOLATION HOSPITAL ACCOMMODATION.—

Fourteen rural parishes, with a population of 12,228, within a general radius of 6 miles from Newton Abbot, are in combination with that town with regard to the hospital. The typhoid wards give accommodation for 4 adults on the basis of 2,000 cubic feet, while the iron buildings afford 8 beds for other contingencies. The latter has been used for diphtheria mainly during the past year. As there is not provision for three diseases under separate roofs, a further block is now in course of construction, with 6 beds giving 2,400 cubic feet for each patient, which will be used for diphtheria ; it will be completed in the early spring.

The northern and more distant parishes are still unprovided for in this respect, together with a few of those nearer at hand ; I am of opinion that all those within a reasonable distance should at least be included.

A further attempt to bring in the whole district was made in the early part of the year, but this fell through after some discussion.

All notifications are visited by myself immediately



on receipt ; where feasible the patients are removed to hospital. In other cases, the house is, when possible, cleared of healthy children, who are either taken by relatives or boarded out in houses only tenanted by adults. In some few instances, as, for example, where another home cannot be negotiated among neighbours, or in solitary country cottages, where to send away contacts might mean the starting point of another centre of infection, isolation has to be carried out at home as well as possible ; but where there are other children, this is always to be regarded as unsatisfactory in cottages.

Houses are disinfected and limewashed where necessary, and there is a steam apparatus for dealing with clothes and bedding at the hospital, the latter being available for the parishes within the combination. Disinfectants are supplied gratis, and can be obtained at the following places :—Abbotskerswell, Mr. R. Chudleigh ; Bishopsteignton, Mr. R. Berry ; Bovey Tracey, Mr. E. Steer ; Broadhempston, Mr. W. Atwill ; Brookfield, Mr. W. Parker ; Chudleigh, Mr. J. Kelley ; Chudleigh Knighton, Mr. Cornish ; Cockington, Mr. W. Dyer ; Dawlish West, Mr. C. Combes ; Denbury, Mr. L. Lark ; Ideford, Mr. W. Bowden ; Ipplepen, Mr. A. Luscombe ; Kingskerswell, Mr. E. S. Ford ; Kingsteignton, Messrs. T. Lang and J. T. Partridge ; Lustleigh, Mr. E. Arnold ; Moretonhampstead, Mr. L. Endacott ; Ogwell, Mr. W. Webber ; Stoke, Mr. Jas. Knott ; and Widecombe, Mr. A. Nosworthy.

PHTHISIS was responsible for 15 deaths, of which 1 was between the ages of 5 and 15 years, 3 between 15 and 25 years, and 11 between 25 and 65 years. This gives a rate of .8 per 1,000, as compared with a decennial average of 1.0. Three fatalities were registered in the parish of Ilsington and two each in Bovey, West Dawlish and Ipplepen. Several others contributed a single death.

Six deaths were attributed to other tubercular diseases, of which Chudleigh was responsible for three.

In connection with the new regulations for the notification of phthisis by the Poor Law Medical Officers, I have had cards of simple directions for the guidance of patients printed, which will be duly distributed on notification. Disinfectants are supplied by the authority.

## DAIRIES, COWSHEDS AND MILKSHOPS.

There are on the register 185 dairymen and cowkeepers, controlling about 1,700 head of cattle. The district is rich

in pasturage and has considerable centres of population within easy reach, which obtain from it much of their milk supply. The model regulations of 1899 under the Dairies, Cowsheds and Milkshops Order are in force, and on my visits last year I distributed copies of these printed on stiff cards, to be hung up in a conspicuous place.

The general standard of these premises has for some time past shown a gradual but steady improvement, and I think that those concerned in the milk trade are quite alive to the fact that improved methods are now demanded by the public.

Water supplies are various ; of the total 185, 88 get their supply from the public mains in the various towns and villages ; 28 have spring water brought in by gravitation, while 69 depend on wells. Several of these were analysed during the year and generally found satisfactory. Other matters are also having attention, including paving and ventilation of the shippens ; I find also the limewashing is now more regularly carried out.

So far this is satisfactory, though more remains to be done before ideal conditions are attained. I always impress on those concerned the necessity of the greatest cleanliness as to the hands and persons of the milkers and the udders and teats of the cows, drawing special attention to that part of the regulations which deals with these points. The dairies are, generally speaking, kept very clean.

During the last few years much discussion has taken place concerning this most important subject—the milk supply—which affects so large a part of the diet of children and invalids and is also particularly susceptible to pollution. Since milk contains all the essential ingredients which constitute a food for man, it also forms an excellent medium for the rapid growth of bacteria and germs of all kinds, amongst them those which are known to be associated with certain infectious diseases, such as typhoid fever, diphtheria, and zymotic diarrhœa—diseases, too, which especially affect children—as well as the organisms of putrefaction. It is not, therefore, merely a danger limited to the accidental access of a few bacteria, but that resulting from their rapid multiplication, especially at ordinary summer temperatures during the time—often several hours—that elapses before the milk is consumed. The problem, therefore, to be solved is to ensure that the customer gets a pure and wholesome food, which is all that it purports to be—and nothing more ; for the addition of preservatives is only a cover for staleness, or, what is worse—actual impurity ; besides this they are of the nature of drugs, and, however small in amount, deleterious in the long run.

This has, moreover, to be effected without perceptibly increasing the cost, because the poor being large consumers, a mere fraction of a penny per quart extra becomes a substantial sum—and therefore a burden—in a large family during the year.



It has recently been freely stated that the condition of the dairies and cowsheds in many country districts is, from the sanitary point of view, far from being desirable, and that urgent reform is needed ; but as with most other reforms the process must of necessity be a gradual one, and though the legislature pass Acts giving Councils wide powers, the nature of rural and therefore in the main thinly inhabited districts is such that their officers can only make visits at long intervals—without creating an army of officials at great cost to the public. The first consideration is therefore to see that the milk producer fully understands the conditions involved from the medical and sanitary point of view ; and to set before him a reasonable ideal to be attained, which he will in his own interest conform to as far as possible. In short it may be said that the willing co operation of the producer can do more than any number of officers, without, moreover, the friction which compulsion tends to produce ; at the same time compensation in certain directions in case of loss would no doubt add a further inducement.

The ideal has been put in a few words, "Pure milk from healthy cows," and such has been practically attained in Denmark—largely by adopting a system of co-operation ; and it may be of interest, though perhaps not coming strictly within the scope of such a report, to give a short account of the methods of the "Copenhagen Milk Supply Company," which has revolutionized the milk trade of that city. This only differs from many co operative systems in that and other countries in so far as the central organisation is not in the hands of the farmers themselves, but is carried on by a company. This organisation was started in a small way in 1878 by Herr Busck, a large butter merchant, not as a profit making concern (the shares pay 4 per cent.), but in order to reform the milk trade—then in a most unsatisfactory condition. At the present time the company contracts to take milk from about 40 farms, which are distributed over the islands of Sjølland (on which Copenhagen stands), Lolland, and Falster. These are all connected with the capital by railways and short ferries, on which latter waggon and coaches are transported, so that it is not necessary to break bulk. The number of cows under their control is about 5,000, varying on the different farms from 50 to 300 ; on the smaller farms the proportion of land is from one acre per cow, to two on the larger ones. The average ownership value of good land is about £50 per tönne (about  $\frac{2}{4}$  of an acre), and the labourer's wages vary from 2/10 to 3/4 per day in summer and rather less in winter—cottage not included. The farms are under the constant supervision of the company as regards general condition of animals, cowsheds, and milking appliances ; seven veterinary surgeons are employed for this purpose, and routine inspections are made fortnightly. The farmers

have to report to headquarters any suspected disease among cattle or hands, and the milk is not then used till a visit is made; the loss falls on the company.

The regulations of the Board of Health enact that "no person who is suffering from any breaking out or infectious skin disease, or who has large unclean wounds or bandages on his face or hands, or anyone in communication with persons suffering from acute infectious disease—or who themselves are affected with such disease—including dysentery, typhoid fever, erysipelas, diphtheria, scarlatina, and phthisis—may be employed in milking, handling or selling milk."

Also "animals suffering from inflammatory eruptions of udders or teats, tubercular nodules, suppuration and the like, or who have been treated with foul smelling or poisonous drugs (on those parts), or animals with breaking out or secretions of offensive or sickly nature, such as pus in the uterus, retention of the afterbirth, or with lung disease, shall be separated from the rest of the stock, and their milk shall not be used as food for man, and only for animals after being boiled."

In case of infectious disease among the hands the Board of Health can demand the immediate removal of the patient from the premises.

All cowsheds are kept absolutely clean and are washed out and all manure removed before milking; dry sweeping is forbidden; the animals themselves are groomed and the udders, teats, and surrounding parts washed and then rubbed dry with a cloth; the milkers wear a special dress—frequently changed; soap, water and clean towels are kept near the milking place. It may be added that when weather permits, milking is carried on in the open air. The milk is not used for human food for 12 days after the calf is killed, and the cow is then milked for 10 months; the average value of a milch cow is from £15 to £20. The farms are, perhaps, mostly, but not invariably, owned by their tenants.

The country usually has a long and cold winter (Copenhagen is in the same latitude as Edinburgh), and the cows are kept wholly in sheds for eight months in the year. On some of the farms there is an intermediate season, when they are out by day and in at night, but this is not general.

Denmark is in many parts quite flat; in others rolling uplands of low elevation abound, but owing to the absence of hedges there is little shelter, except in the neighbourhood of the beech forests, which cover considerable areas. The animals, as a rule, are tethered to one spot and not allowed to roam at will over a field; the food they are given is subject to the approval of the company's officers. Railways mostly belong to the State, and the general charges for conveying milk are as follows: For 100 kilograms—about 21 gallons—22-34 miles  $7\frac{1}{2}$ d.; 34-53 miles  $7\frac{1}{2}$ d. to  $8\frac{1}{2}$ d.; and so on in proportion.



The milk is conveyed to a siding on the Company's dépôt (in the suburbs of the city) in special waggons, which are closed in all round, ventilated and painted white; the floors are washed after the journey. All cans and bottles are cleaned daily; the latter are treated with a hot solution of soda and scoured by a centrifugal brush, revolving at high speed—then rinsed with cold water and stood in racks to dry.

The metal cans are first rinsed with cold water to prevent grease adhering; next washed out with a hot soda solution, then passed through limewater, rinsed again with cold water, and finally subjected to a steam and hot water jet; these processes are done by machinery. All are then fitted with air tight covers, and are ready to go back to the farms.

The evening's milk is brought in about 10.30 p.m. The milk, which has been passed through cotton strainers at the farm and there cooled down to a temperature of 12 C, is in cans, each sealed with the name of the farm. The cans are opened, tasted by women, and the temperature observed. If not sufficiently cool, the can is at once immersed in ice. If there is any slight abnormality in taste, or a can is unsealed, these are set aside for butter making (of second quality). Samples are also taken for testing—3 or 4 from each farm, and the milk is stirred up and thoroughly mixed. The legal standard is 2.75 per cent. of fatty solids, but at this dairy it is 3 per cent.

It is forbidden by law to sell milk which :—

- (i.) In color, taste, smell, or appearance, is abnormal.
- (ii.) Comes from cows recently calved.
- (iii.) Comes from cows suffering from various infectious and febrile diseases (including tubercle, violent diarrhœa), or being treated internally or externally by drugs, which by transmission to the milk can injuriously affect its quality.

(iv.) Is mixed with water or ice (it must not be watered down to the legal standard), except in the case of blended milk for infants, or preservatives of any kind.

(v.) After standing for two hours leaves a visible deposit.

After these proceedings the milk is passed through a filter of granite gravel—daily cleansed by steam jetting, the product of the various farms is blended, and the bulk of it is put up into airtight cans for distribution in waggons in the morning. These are completely covered, with small hinged doors, by which access is obtained to the taps of the cans. The tap is connected to a tube, which runs vertically up through the can and is provided with small holes throughout its length; this ensures that every customer shall get his proper proportion of cream and no more. The milk is sold from the cans at 16 öre per litre, or rather less than twopence halfpenny per quart. Some of the milk is put up in bottles containing a litre (rather less than a quart); these are corked, sealed with the company's seal, and sold at 17 öre each—rather over twopence

halfpenny per quart. The first bottle is paid for by the purchaser and then the empties are exchanged.

The sealing and corking are done by hand, and afford employment for several poor women.

Skim milk is obtained by a separator ; the milk is previously warmed by steam, and subsequently both cream and milk are again cooled down by ice. In the process the amount of fatty solids is reduced from 3 per cent. to  $\cdot 75$ —1 per cent. ; there is never less than the former quantity. This skim milk is sold from cans at 8 öre per litre—less than 1½d. per quart. It is reckoned that from 10 litres of milk, 1 litre of cream and 9 of skim milk can be obtained.

Cream is sold in three grades :

(I.) As obtained from the separator—containing 30 per cent. of fat—in bottles holding a quarter of a litre, or less than half a pint, at about  $1/7\frac{1}{2}$  per quart.

(II.) Containing 19 per cent. of fat.

(III.) Containing 14 per cent. of fat.

The latter are obtained by adding raw milk.

**Child Milk.** Some farms specialize for children's milk. The cows are subject to special regulations as regards feeding, e.g., cotton oil cake is forbidden, and they are tested with tuberculin twice a year. A fortnightly certificate of a veterinary as to condition of animals and sheds is exacted by law. This milk contains more fat, and is sold in bottles at 20 öre per litre, or 3d. per quart.

**Baby Milk.** This is specially prepared for children in the first year of life, and is the finest milk sold by the company. It is milked into special cans, containing ice coolers, and the cows are subject to the same regulations as regards feeding and tuberculin testing as in the case of child milk. It is blended with sterilized water and sugar in proportions varying according to the age of the child, and then put up into small flasks—each enough for one feed ; seven of them are put up together for a 24 hours' supply. They only require warming and the insertion of a teat to be ready for use ; the cost is 24 öre per litre, or rather more than 3½d. per quart.

Pasteurized milk can be supplied, but the principle aimed at is to supply sound raw milk only of the best quality.

About 250 hands are employed at the central dépôt, and as many more are engaged in distributing the milk. Everywhere the strictest cleanliness is observed, both of buildings, appliances, persons and clothing of the employée's. These latter wear white cotton overalls, which are washed twice a week. The buildings are all on the ground floor, and are concreted throughout.

Now the principles on which the business is carried on depends on the fact that

(1) The strictest precautions are taken throughout to prevent dirt and germs having access to the milk.



(II.) The milk is kept at a low temperature to inhibit the growth of any accidental organisms that may be present. This last depends on an ample and cheap supply of ice, which is obtained from a large sheet of water—many acres in extent, within the city area—formerly the public water reservoirs. Ice can be obtained at the rate of about  $2/6$  per 1,000 lbs. About 6,500,000 lbs. are used annually here.

The company send out from 5,000-5,500 gallons of milk a day, which is about one-eighth of the total quantity consumed in Copenhagen—estimated population in 1908, 445,000.

The methods adopted have compelled other dealers to follow suit, and indeed practically the whole of the precautions are now insisted on by the regulations of the Board of Health as to dairies and cowsheds. The price of milk has thereby been raised about one farthing per quart.

For any infraction of the regulations, besides the person immediately concerned, the proprietor of the business, and as occasion may indicate, the purveyor or producer is answerable, when the infringement can be laid to their charge. In so far as the milk is not sold in closed cans, provided with the producer's seal or tally, the seller is responsible that the milk he sells answers to the description under which it is sold ("New Milk," "Skim Milk," "Child Milk," &c.), and this has to be clearly marked on the can; if blended with water and sugar for infants the proportions must be exactly stated.

The effect on the health of the inhabitants is not easy to estimate, but it may be mentioned that the infant mortality—or deaths under one year to 1,000 births, has fallen from 201 for the years 1881-1885 (population about 270,000) to 119 in 1907 (population 439,000).

I take this opportunity of giving my best thanks to Dr. Busck and his manager, who shewed me over their premises and allowed me to observe their methods, and also to Dr. E. M. Hoff, the Medical Officer of Health for the City of Copenhagen, who took considerable trouble in answering my manifold enquiries on the subject and also accompanied me on my visit.

It will be seen from the above ideal methods that as compared with the general custom of this country a certain amount of extra expense would be entailed, which could probably only be modified by some kind of co-operative system and finally dealing with the milk in a central depôt connected with a number of farms; moreover, any loss would be distributed over a large area and its effect therefore minimised. There are, however, in this part of England certain special conditions, chiefly climatic, which exercise an important influence both as compared with a colder country like Denmark, or even with the North or Midlands.

In the first place, in these three districts there are no great centres of population in which cows have of necessity

to be kept always in sheds, an artificial mode of life at best, and then, again, the mild winter seasons allow them to be out in the fields the whole year by day and three parts of it by night as well—indeed, on some of the farms in the more sheltered valleys they lie out at night always, unless snow is on the ground, a few days only in most years. On the exposed heights of the moorland parts of the district there is, perhaps, a little modification of this principle, but practically all the dairy farms lie near the towns they supply and are in the lowlands. Moreover, in the westcountry thick and high hedges are very usual, and good shelter is thereby provided. This means that they get the open air life which is recognized as the best preventative of tuberculosis. I do not know of any statistics as far as this county is concerned, but a general application of the tuberculin test would be of much value and interest, and I am of opinion that the percentage of those affected with this disease would be a low one, in the case of native cattle; at all events, deaths of infants from tabes or tubercular disease of the intestines are infrequent, and this should be some criterion. Of the various specific contaminations to which milk is liable, tubercle is the most important of those derived from the animal itself—indeed, it is probable that this practically the only source, because the germs are very slow of growth, even under the most favourable conditions; any which gain access therefore during the period of storage would have no time in which to multiply. In this (and other) respects, therefore, the health of the cow is the first consideration in the production of sound milk, and if milch cows were periodically tested it would be to the interest of the State to allow the farmer reasonable compensation for any loss he might sustain by the result; and I know by experience that an animal may be to all appearance sound and even fat, while the internal organs are riddled with disease.

The next source of pollution lies in the milking, and it is in this that the greatest cleanliness is necessary, both as regards the hands and person of the operator, and the udders and teats of the animal. Cows lie down in all kinds of dirt, a portion of which is sure to find its way into the milk can if due precautions are not taken to prevent it; soap, water, clean towels and cloths should be always at hand, and a clean cotton overall worn during the process would be of much advantage. In this connection the condition and surroundings of the milking shed also plays its part; because dirty and unventilated sheds mean an atmosphere laden with dust and other impurities, with the various germs these carry, to which the milk is for a time exposed. As before mentioned, it is not so much the few which alight on the milk, but their extremely rapid multiplication which is the source of mischief. Straining through cotton will remove any course impurities, and



is of advantage, but is useless for the removal of small organisms. Therefore, milking should, where possible, be carried on in the open air; cowsheds here are mainly milking sheds and there is great difference in their construction; some are open at one side—others closed in, and I cannot help thinking that if all were thus open the animals would be perfectly healthy, and that the draughts which some dairymen complain of as being prejudicial would not be found so perceptible, because it is when the temperature has been raised by the warmth of the animals in a closely occupied building that currents of colder air become noticeable and affect the occupants. The older sheds have often pebble stone floors, and these find favour with many as opposed to bricks, especially the smoother kinds, which tend to be slippery after washing. On the other hand, well roughed or ridged concrete is non-absorbent and affords a surface far more easily cleansed, which also gives a good foothold. The regulations order limewashing of the walls and ceiling to be done thoroughly twice a year; hot lime is the best, as being the most efficient sterilizer of the surfaces. I have, however, had the complaint that lime is liable to scale off and fall from the ceiling, especially if this latter is galvanized iron, but in any case this should be kept well washed and clear from cobwebs. It is unnecessary to say that all floors should be washed every day, and dry sweeping, which raises the dust, prohibited; also that collections of manure should be, as far as possible, removed from the neighbourhood of milking operations.

The general practice of storing milk in open pans for sale is open to some disadvantages, though it is the usual opinion of dairymen that it keeps better in this way, and no doubt the general appearance of a cleanly and well-kept dairy, with pans of rich milk in rows, is attractive to the customer. It must be remembered, however, that a large surface is thus exposed to the incidence of dust particles, flies (which are now recognized as direct carriers of infection) and any other chance source of mischief. To prevent this a cover of fine muslin, constantly washed, acts as an excellent air filter, while allowing of free ventilation, and should be used especially in summer and in town dairies. This precaution is, I am told, not admissible in the preparation of skim milk in the ordinary westcountry manner. The use of the separator is becoming more and more general, but much of the milk is still treated in the old way, by heating it over a stove for 20 minutes to a temperature rather under boiling point and then exposing it in pans for the cream to rise; any covering, however porous, seems to hinder this process. Dairy windows, therefore, should be protected by finely perforated zinc ventilators, and all doors connected with the house made to shut automatically and be as tight fitting as possible.

In the presence of open pans, the only permissible goods

are such articles as eggs, butter, soda water, confectionery and the like in bottles ; the regulations in Copenhagen require that in shops where other things are sold the milk must be kept in airtight containers, and drawn only by means of a tap.

The street delivery also merits some attention ; all cans should be covered and provided with a tap ; open cans, with dippers, by which dust from the streets and dirt from the hands of the purveyor is a likely addition, stand condemned. Most of the business is now, however, carried on from carts, and with these little fault is to be found, and the cans are generally of modern pattern. All cans and appliances used should be scoured with hot water daily, made as far as possible sterile, and then covered till wanted. This is, I think, well attended to in the district.

Now all these precautions can be secured by regulation and the co-operation of dairymen and cowkeepers, but there still remain the consumers, and if the milk when delivered is stored in unsuitable places, dirty jugs, unclean feeding bottles, it will quickly become contaminated. In most modern cottages a larder is provided and milk should be kept in the coolest available place, covered, and all vessels used constantly cleaned. In default of a larder it is generally possible—always in the country—to provide a small safe on the north side of the dwelling, which makes an excellent substitute ; and in summer especially, milk should be bought in small quantities, and fresh twice a day.

The question of pasteurizing, or raising milk to a temperature rather below boiling point for some little time, is one much discussed. It is the opinion of many experts that this process deteriorates the dietetic and digestive quality ; a German physician, writing in 1903, attributed the then prevalent scurvy among infants in Berlin to this cause ; but it undoubtedly destroys all bacteria, both the adventitious and harmful kinds, and also the natural micro organisms which exist in the milk ; any germs which may gain access afterwards multiply therefore all the more rapidly because they meet with no competition. Such milk for this reason rapidly putrefies on exposure, and should be kept in hermetically sealed bottles till used—or, better still, prepared at home, in the special saucepans which can be bought anywhere for the purpose and used immediately. In large towns, where the milk is brought from long distances, and in preparing a blend with sugar and water for infants, there is something to be said in its favour ; but there is no doubt that raw milk in its natural state is the ideal food, and this is what we should aim at obtaining.

The treatment by cooling—so successful in Denmark—is difficult to carry out in this country to the same degree, because the cost of ice is practically prohibitive. Milk can, however, be chilled to a certain extent by allowing it to flow



over coils of piping, through which cold water is constantly circulating—and a milk-chilling apparatus of this kind has been devised. Here, however, upland surface water forms a considerable proportion of the public supplies, and its temperature is in summer comparatively high; deep spring waters on the other hand range from about  $50^{\circ}$ — $55^{\circ}$  F.

Rapid transit, therefore, and frequent purchase, implying the least possible storage, combined, of course, with the greatest care as to cleanliness throughout, are all the more important.

It is not always easy to imbue the minds of the elder generation with the latest scientific methods—especially in country districts, where people lead healthy and open air lives and are inclined to think many of such precautions are unnecessary and merely productive of expense and annoyance to those who are asked to carry them out; but the sources of milk pollution and the means by which it can best be obviated is a subject that should find a place in every school curriculum, especially in villages, where many of the children will, in after life, be connected with dairy farming in some way or other; and knowledge of this subject, particularly in connection with the feeding of infants, is an essential to the education of every girl—a potential mother—in the country. The whole question is still under debate, but public interest, slow perhaps to move, has been aroused, and further legislation is foreshadowed. But I would repeat that the most important factor is the willing co-operation of those who control the milk supply, because if people can by logical and self-evident reasons be brought to see the necessity of any definite line of action, the right-minded—who constitute the majority—will at once fall into line, and the remainder will be forced in their own interests to follow suit.

**OFFENSIVE TRADES.**—Urban powers are in force over the whole district in respect to these (Public Health Act, 1875, sections 112—114), and no offensive trade may be established without the consent of the authority; the Local Government model bye-laws applying to such trades are in force. There are only two businesses in the district which come under this heading, one being started during the past year. I have had no complaints concerning them.

**SLAUGHTERHOUSES.**—There are 34 of these in the district, of which 7 are in the parish of Kingskerswell. They are inspected from time to time by the Sanitary Inspector and myself, and have been generally found satisfactory, though some of them are old buildings. The model regulations under the bye-laws are in force.

**HOUSING OF THE WORKING CLASSES.**—No

houses have been condemned as unfit for habitation during the past year, but two which were under notice have gone out of occupation. One case of overcrowding was abated by intimation notice, and several others, concerning which complaints were received, were investigated, but found to have the legal airspace.

Building operations do not show any symptoms of great activity on the whole, but as in former years, Bovey Tracey and Kingsteignton are steadily moving forward. Plans for new houses to the number of 8 in the former town and 10 in the latter were passed. The little village of North Bovey comes next with 7. In all 35 new dwellings were built during the year ; while plans for 50 were passed, spread over 16 parishes.

There are many old cottages in the district, and these are receiving attention as opportunity affords. Water supplies are generally good ; in the towns and larger villages most of them have the public water supplies, and in the country, as a rule, this does not present much difficulty. The greatest trouble is caused by dampness, partly owing to the nature of the climate and partly to the absence of damp-proof courses. In the moorland part of the district granite is usually used for building, but owing to its porosity, this material requires an outside coating of cement or slates if the dwelling is to kept really dry. Rubble floors in washhouses and back kitchens are being gradually replaced by concrete or brick.

House to house inspections were carried out at Bovey, Ipplepen, Moreton, and North Bovey.

**BUILDING BYE-LAWS.**—The model regulations of the Local Government Board are in force throughout the district ; the modifications recently issued for Rural Districts have been adopted, and are in force, so that galvanized iron dwellings are now legally recognized.

The Public Health Act, 1907, has been considered by the Council and most of its provisions have been adopted ; these will shortly be in operation.

**MIDWIVES ACT.**—There are now 11 midwives on the register ; eight of these are certified by training and examination, while the other three are registered under the section which allowed those who were in practice previously to 1902 to do so, on the certificate of a medical man. The latter class are, however, gradually disappearing. Many of them attend very few cases by themselves, and five are also district and parish nurses ; one is attached



to the Moreton Cottage Hospital. They live at Bishopsteignton (2), Bovey (2), Broadhempston, Chudleigh (2), Ilsington, Moreton, Trusham, and Widecombe. I inspect them twice a year, which I consider sufficient in consideration of the number of confinements they attend. Their work and methods are, as far as I can ascertain, satisfactory, and I have found their case books well kept and appliances clean. The institution of parish nurses is gradually spreading, and in rural districts the supply of certified midwives will, I think, largely depend on this movement, with great advantage to the poor in many directions. Bovey, Chudleigh, Bishopsteignton, and latterly Kingsteignton have now parish nurses, while two are working in the Teign Valley, covering a large area.

**SALE OF FOODS AND DRUGS ACT.**—This is administered by the police.

On page 6 I give the usual parish table, with deaths from the more important diseases and death rates for each parish. The average rate for the previous ten years is also added, since this latter in small communities is a far better guide, not being so liable to fluctuations as a single given year. In 1908 no parish was without mortality, but Woodland and Buckland had only a single death. Death rates below 10 per 1,000 were registered at Woodland (5·9); Bovey (7·4); Ideford (7·9); Stoke (8·6); Dawlish West (8·8); Denbury (8·9); Broadhempston (9·0); and Manaton (9·5). Next in order come North Bovey (10·1); Teigngrace (10·5); Ipplepen (11·4); Buckland (11·5); Kingskerswell (11·7); Ogwell (12·0); Widecombe (12·2); Hennock (12·6); and Chudleigh (12·6); all the above are below the rate for the whole district. The highest mortality is shown by Cockington (22·6); Bickington (23·2); Coffinswell (24·9); and Trusham (30·3). These, however, have very small populations and one death adds largely to the rate—no less than 6 points at Trusham; in all of them the decennial average is very much lower.

Of those containing over 1,000 inhabitants, Bovey occupies by far the best position, as it also does in the mean for the preceding 10 years. Kingskerswell again is in the second place, closely followed by Chudleigh; the others have rates which exceed the combined figure.

## SANITARY CONDITIONS & PROCEDURE.

**Abbotskerswell** population 457—acreage 1,486. The public water supply is that of Torquay and Newton, and

is derived from the Wolborough Hill reservoir at Newton Abbot, but there is also a small tank at Aller, which serves a few isolated dwellings. The question at Whiddon has been solved by an extension of the main from the village—a distance of 3,850 feet, and by this means a supply for three cottages and two larger houses has been made available.

The sewerage is in statu quo : the extension of the present system is a matter which will require attention as soon as the financial question permits, both to provide for other parts of the village and to prevent nuisance from the brook.

Both water closets and pail privies are common ; many of the former have been flushed.

Shales and limestone form the chief geological features of the locality.

One new house has been built, and the drains in connection with two others renewed.

Infectious disease was represented by an outbreak of measles among the children in the early spring, without however any fatality.

There were 8 deaths in 1908, including 2 from cancer ; this gives a rate of 17.5 per 1,000 : the mean for the previous ten years was however only 12.4.

**Bickington** population 215—acreage 1,403. Water is somewhat scarce in dry weather and the higher part of the village, but one or two fresh sources have latterly been made available, and I had no complaints in 1908. The question of the school closets has now been settled and the work carried out. The old trough closets have been replaced by modern wash down pans with 3 gallon flushes, and the roof water from the school—a horizontal area of 1,200 square feet—stored in a tank of 1,000 gallons capacity ; allowing for evaporation, less than two inches of rain would suffice to fill this cistern : the average rainfall being about 35 inches. If flushed three times daily (5 school days a week) there will therefore be nearly a seven weeks supply for three closets and an urinal ; this has constituted a long standing nuisance, and I hope is now permanently settled.

There are no sewers, and closets, as a rule, are on the dry system.

The drainage in connection with one house has been renewed.

Except for some cases of whooping cough, with one fatality, the parish was free from infectious disease during the past year.

Five deaths were registered (2 from apoplexy), and the rate was 23.2 per 1,000—considerably higher than the decennial mean, which worked out at 15.5.

**Bishopsteignton** population 1,076—acreage 4,449. The main part of the water supply is derived from two deep springs under the Haldon greensand ; there are two covered reservoirs containing together about 120,000 gallons. There is



also a third spring, with small reservoir, but this inconsiderable. This water is of excellent quality, but has of late years, partly owing to increased consumption and partly to diminished yield, proved insufficient to meet even domestic demands. The question of an increased supply, under discussion for some years, has at length been solved, and an agreement arrived at with the Teignmouth Urban District Council by which an amount up to a maximum of 2,000,000 gallons a year (not to exceed 15,000 on any given day) has been secured. This water is taken from the main which runs through the village, within a short distance from the reservoir, and is a moorland and upland surface water of excellent quality. It was available by the middle of July and for the first time for several years past there was no shortage in the late summer months. Notwithstanding this however the extra consumption did not fall far short of the maximum quantity allowed, and measures to prevent waste of all kinds were found necessary. The advantage gained is very great, and the addition of a soft water to that obtained from the springs will if anything improve the quality of the supply.

**SEWERAGE.** Water closets are general ; the sewers are all piped except a portion below the church, where there is however, a good fall. There is now only one chief main outfall, which irrigates a field below the vicarage ; a few dwellings however still of necessity drain into West Town Meadow. The water supply now being put upon a satisfactory basis, a house to house inspection has been begun, with a view to getting all closets flushed, though the majority have been previously attended to.

**NEW WORK.** Nine hundred feet of new water main was laid, in connection with the additional supply. The drainage of four houses was put in order ; besides this, the school closets and part of the drains which were defective have been reconstructed, and the old wash out pans replaced by others of modern type.

Several cases of diphtheria, referred to in detail on page 15 were reported, also half a dozen mild attacks of scarlatina ; there was however no fatality from zymotic disease during the year ; indeed only one death from this class of illness (that of a child from whooping cough) has been registered in the last five years.

**LUTON.** A village of about 20 houses in the parish ; has a good and abundant water supply piped down from a Haldon spring ; there is a reservoir containing about 5,000 gallons.

Closets are mostly on the dry system and there are no sewers.

The hamlet of **ASHWELL** is supplied with an excellent spring of water.

The death rate of the parish worked out at 16.7 per 1,000 ; of the total 18 deaths, 1 each were due to phthisis and cancer. The average rate for the preceding 10 years was 14.9—a much

better figure ; in 1904 (9.3), 1906 (10.2), and 1907 (8.4), Bishopsteignton was easily the best of the parishes containing over 1,000 inhabitants, while in 1905 it stood second with (12.1), showing the good health record of late years.

**Bovey Tracey** population 2,694—acreage 7,567. Water supply is derived from granitic springs at Yarner, and is of excellent quality. There is a storage reservoir on Trendlebeer Down of 3,000,000 gallons capacity. This was available to its full extent during the past year, and a constant supply was maintained throughout.

There is also a home reservoir, containing 250,000 gallons, above the church, but owing to defects, this can only be partially filled.

**SEWERAGE.** The new sewerage system is in good working order ; since the water supply is now on a satisfactory basis, and available for flushing closets, I have partly carried out a house to house inspection with this end in view. House drains which discharged into the old sewerage system were connected as the work proceeded, but there was a doubt as to the legal position in certain cases, and a further loan of £400 was sanctioned for the purpose of bringing in the drainage from the National Schools and other adjoining property, in addition to further extensions. The house to house inspection will be concluded this year ; a good deal of drainage work has been done of late years, and with the exception of St. Mary Street, which contains many old cottages, there is little wanting attention. The street grids for ventilating the sewers were continually a source of complaint and have all been closed.

House refuse is removed as required.

**NEW WORK.** 600 feet of new main has been laid, also 180 feet of new sewerage to provide for houses being built at Combe Cross.

Building operations have not been so active during the year, only three new houses being built. Plans for eight were, however, passed.

The British School having been condemned by the Educational Authorities, it is proposed to provide further accommodation. In the meantime temporary iron classrooms for the infant department have been erected in St. Mary Street, within a short distance of the School. This will relieve the overcrowding, an evil which was intensified by the position and character of the old building.

The drainage in connection with 11 houses was put in order, including one large hotel ; 13 closets were flushed.

**BROOKFIELD AND WREYLAND.** These villages, though in the parish of Bovey, are in every sense more closely connected with Lustleigh. They are supplied with water by the Trendlebeer reservoir.



The sewers form part of the Lustleigh system ; there are two branches, one of which can be flushed from the river. Water closets are general, and these are well flushed.

At **HEATHFIELD**, also in this parish, the long row of cottages (32 in number) is supplied by the Torquay water ; closets are all flushed, and there is a private sewer, with outfall in a private meadow.

Notifiable infectious disease was limited to a case of mild scarlatina, and another of typhoid fever (the latter not indigenous). Three fatalities were, however, caused by whooping cough during the summer months ; later in the year there were a few cases of measles at Brookfield.

The general death rate was only 7.4—less than half that of the preceding year—an excellent figure. Of the 20 deaths registered, 3 were due to whooping cough, 2 to phthisis, 1 to “others tubercular,” and 2 to cancer. The decennial average worked out at 12.6 ; in both these rates Bovey is easily ahead of the other towns in the district.

**Broadhempston** population 445—acreage 2,200. Water supply is derived from wells, mostly in the shale, which is the geological formation of the neighbourhood. Several of these ran very low during the summer.

There is one sewer, nearly all piped, with outfall in an orchard.

Closets are fairly numerous, but in the absence of a public water supply, scarcely any of them are flushed. The chief sanitary work was the reconstruction of the school privies. The former privy cesspits were replaced by pails, with sawdust urinal—I have found them kept very clean on my visits.

The parish was free from infectious disease. There were only 4 deaths during the year, 2 of which were in the Union House and County Asylum in former residents, and the death rate has in consequence fallen to 9.0 per 1,000, as compared with 20.2 in the previous year, and an average of 21.9 for the years 1898-1907.

**Buckland** population 87—acreage 1,493. The waters are of the granitic type and are pure and abundant. Closets are on the dry system, and there are no sewers.

As in the two previous years, 1 death was recorded, giving a rate of 11.5 per 1,000. The decennial average is 7.4, all but the lowest.

There were no cases of zymotic disease during 1908.

**Chudleigh** population 1,820—acreage 6,128. Water supply is derived from the Kennel spring, about two miles from the town ; this is of the excellent quality usually yielded by the Haldon greensand or the limestone which underlies it. The normal flow is at the rate of about 70,000 gallons a day, with little or no fluctuation on account of rainfall or drought ; the town is entitled to 40,000 gallons, with the option of purchasing more if required, at the rate of three pence per 1,000 gallons.

There is a reservoir containing 70,000 gallons, with a meter, near the source. As the consumption has considerably exceeded the 40,000 gallons (averaging about 56,000), some discussion has taken place with a view to reducing the extra expenditure necessitated thereby. It has been suggested that the pot water, which also belongs to the town, should be utilized. This is derived from several springs at a high level and is more or less of the nature of an upland surface water ; it contains a certain amount of vegetable matter, is open to road washings at least at one point, and even if piped above the cultivated land, would, in my opinion, need filtration, with all its attendant expense. At the best it is decidedly inferior to that derived from the Kennel spring, which is one of the purest waters in the district. The other alternative is to limit the consumption, which with a population of about 1600 in the water area ought not to exceed the amount allowed. To attain this there are three factors which need consideration. (i) the condition of the mains :—this can only be ascertained by a test, which will bring to light the existence of leaks (if any) ; (ii) leaky taps :—this is a matter in which supervision should, if necessary, be aided by the prosecution of offenders ; (iii) use of water for other than domestic purposes. It is proposed that for trades, garden purposes, etc, meters should be installed, an extra charge made—a measure which both tends to lessen the consumption, and at the same time relieves the rate.

**SEWERAGE.** Water closets are general, and practically all are now flushed. The sewers are all piped, with the exception of a short piece of the main trunk ; there are two chief outfalls, which irrigate meadows, but no settling tanks. The council have had under consideration the provision of a septic tank for the west outfall, which deals with the sewage of the great majority of the houses, and negotiations have been proceeding with the view of acquiring a piece of land for the purpose ; hitherto however, these have not matured. At present the irrigation is controlled by the tenants of the meadows, and if diverted finds its way eventually into the river.

House refuse is removed twice weekly.

**NEW WORK.** A new sewer (220 feet) has been constructed in Pottery Lane.

Plans for two new houses were passed, and the drainage of four others put in order.

Infectious disease was limited to an outbreak of measles in the early summer months ; the type of disease was rather severe, but there were no fatalities.

Twenty three deaths were registered, giving a rate of 12.6 per 1,000, a very good figure ; the decennial average was 17.2. The chief causes of fatality were : phthisis, 1 death ; other



tubercular diseases, 3 ; cancer, 1 ; apoplexy, 2 ; and violence, 1. Two of the above deaths took place in the Union House.

**Cockington** population 265—acreage 1,451. The village of that name is supplied partly by the Torquay water, and partly from a private source belonging to Mr. Malloch. At EDGINSWELL there is a public well of very fair quality, though I have had complaints of fouling after heavy rain ; the Torquay water is however in use in most of the houses.

SHIPHAY COLLATON has one public well of good quality besides private ones.

Closets generally are on the dry system ; there is a short sewer at Edginswell.

The question of a water supply for the Shiphay Collaton School (about 50 children) has been mooted. There is a well adjacent in a field, but this water is not fit for drinking purposes. There are two alternatives—either to lift the water from the lower spring, or else to connect with the Torquay main ; probably the latter is on the whole preferable, but this remains to be settled. The school closets are on the dry system, so that the water is wanted for drinking and washing only. No sanitary work of importance was carried out during the year.

The parish was free from infectious disease. Six deaths give a rate of 22.6 per 1,000—a rather high figure, but the population is small and the mean for the preceding ten years was only 14.6.

**Coffinswell and Dacombe** population 201—acreage 1,152. There are three public dipping springs, two in the former village and one at the latter, besides private wells. The water is abundant and of excellent quality, and within reasonable distance of most of the cottages.

There are no sewers, and closets are nearly all on the dry system.

As a result of the house to house inspection carried out at the end of 1907 a good deal of sanitary work was done in the parish, and practically all the notices are now complied with. In 14 instances old pit privies were either converted into pail privies or reconstructed with cement bottoms. In several cases rubble flooring of back kitchens and washhouses was replaced by concrete.

There was an outbreak of measles early in the year, without however any fatality ; but a death from diphtheria was recorded in December ; this was the only case of notifiable disease.

Five deaths give a rate of 24.9 per 1,000, as compared with 11.4 for the years 1898-1907. In 1907 there were no deaths.

**Coombe and Haccombe** population 358—acreage 2,004. The water is wholly derived from private wells and there were no complaints of scarcity during the past year.

Shales and limestone constitute the chief geological features.

There are no sewers and few water closets ; a certain amount of drainage reaches the brook which flows through the village, and this is periodically cleaned below the road.

Plans for one new house were passed.

The parish was free from infectious disease.

Five deaths (2 in the Union House, 1 each due to cancer and apoplexy), give a rate of 14.0 per 1,000, as compared with a decennial average of 9.2.

**Dawlish West** population 678—acreage 3,870. COFTON and MIDDLEWOOD are supplied with water from Star-cross ; WESTWOOD by a well. These are unsatisfactory as a rule, owing to the pressure being insufficient to reach the higher levels and to the absence of means to flush sewers and closets.

The houses at MOUNT PLEASANT are supplied by deep well in the sandstone, on which they stand. The supply of these and others along the river margin is in summer precarious in quantity and often poor in quality.

The hamlet of DAWLISH WATER, including several dairy farms, which send milk into the town of Dawlish, also depends on wells ; I had no complaints as to these, and analysis of several dairy farm supplies was very satisfactory.

A local government board enquiry was held in the spring and a loan sanctioned with a view to the provision of a public supply. The water is derived from springs at Duck Aller ; the analysis both chemical and bacteriological shows that it is a pure and rather soft water. The water will be pumped by an oil engine to a reservoir containing 70,000 gallons, situated on the top of Easdon Hill, whence the main will run to Cofton, Westwood, Middlewood, and Mount Pleasant. Several farms and other dwellings on the proposed route will also be benefitted. The work was begun with the new year.

With the adoption of the Public Health Act, 1907, the building of bungalows on the Warren is legally recognised ; they are not included in the new water scheme and it would be very costly to do so, because over a mile of constantly shifting sandbank has to be crossed. In my opinion each should have a cement underground tank for storing roof water, to hold, say, 2,000 gallons, with a pump, and water closets discouraged. Slop drainage is easily disposed of in the sand ; each house should stand on half an acre of land.

The sewers from the ravines at Westwood and Middlewood are discharged into separate tanks at the level of the stream ; these are cleaned out periodically ; the Cofton sewer has an outlet into tidal waters. Water closets are general, but few are flushed.

In the rest of the parish closets of cottage property are on the dry system and there are no sewers.

Three new houses were built.



Except for a case of diphtheria in the early part of the year, the parish has been free from infectious disease. Six deaths (2 from phthisis), give a rate of 8.8 per 1,000, while the mean rate for the years 1898-1907 was 11.9. Both these are excellent figures.

**Denbury and Torbryan** population 448—acreage 3,002. The water supply is derived from two adjacent springs; there is a small reservoir containing about 10,000 gallons. From this it is distributed to the village by means of standpipes, only one or two houses being directly connected with the main; the private connections are cut off in dry weather. The rectory and two other large houses have independent supplies from neighbouring springs.

Water closets are general, but hardly any are flushed, as there is not sufficient water for this purpose.

There are two main sewers which unite to form a common outfall, discharging into a fissure in the limestone rock, upon which formation the parish is mainly situated.

Two new houses were built and the drainage of two others put in order.

The village of **TORBRYAN** has a good and abundant water supply from a limestone spring, which is piped down to the houses; closets are on the dry system and there are no sewers.

The parish was free from infectious disease. Only 4 deaths were registered, giving a rate of 8.9 per 1,000, while the average for the preceding 10 years was 13.8.

**Hennock** population 711—acreage 3,299. The village of that name occupies an isolated position near the Torquay watershed, at an elevation of about 700 feet above sea level.

The water supply is mainly derived from a spring in the vicarage garden, conducted by piping to a shute in the village. The proposed scheme of storing this water in a tank at its source and thence distributing it by means of standpipes in the village has not yet been carried out.

Several cottages are accommodated by another spring, with a small storage tank, about 200 yards south of the main part of the village.

There is a short sewer in Bell Lane, but privies are general.

**CHUDLEIGH KNIGHTON**, with a population of about 350, lies in the Teign Valley, part of which is included in the parish. The water is that of Torquay, and there is a reservoir above Dunleigh, which contains about 12,000 gallons. The great majority of the houses have taken in the public supply and closets which exist are nearly all flushed; there are, however, many pail privies.

There is one sewer discharging into a goyal below the village, which is, however, dry in summer.

Plans for one new house were passed; the water main has been extended to Dunleigh House.

Zymotic disease was represented by a severe outbreak of measles which caused 4 deaths, although it occurred in the summer months. Both Chudleigh Knighton and Hennock were affected, and the schools closed.

The general death rate was however only 12.6, due to 9 fatalities, nearly half being from measles. The decennial average works out at 13.1.

**Ideford** population 254—acreage 1,440. The village is situated on the western slopes of Haldon, at an elevation of about 300 feet; it has a pure and abundant water supply from a spring on the heights above. There is a high level reservoir which contains 10,000 gallons.

The hamlet of OLCHARD, about a mile distant, depends on wells, some of which are precarious in dry weather.

There are no sewers, and closets generally are of the privy type.

No sanitary work of importance was carried out.

The parish remained free from infectious disease.

Two deaths (1 from apoplexy), give a rate of 7.9 per 1,000, and the mean for the preceding 10 years is only 11.0. This parish has consistently shown one of the best rates in the district.

**Ilsington** population 886—acreage 7,843. This parish has a large area, and contains several villages and hamlets. Like that of Hennock, it lies partly on granite uplands and partly on the lowlying clay formation of the Teign Valley. The village which gives its name to the district is 650 feet above the sea level, with about 25 houses, including the vicarage and two farms. The water supply is derived from a stream rising on Haytor Down, which takes an open course, partly through cultivated fields and partly by the roadside, of about two miles, and is therefore, open to surface pollution, and often muddy after rain. The school with about 100 children, is without water either for drinking, or flushing the closets, which are of old trough type, discharging into a cesspit. Water is carried by hand to flush these once or twice a week, and there are occasional complaints, especially in summer. Their reconstruction waits the issue of the application for a loan for the proposed water scheme.

HAYTOR VILLAGE, on the verge of the moor, chiefly depends on a supply piped down from a spring just below the quarry, while there are also a few wells. These supplies are, however, only barely adequate, and this is a developing locality, containing mostly villas and lodging houses, which cater for a constantly increasing number of visitors.

PINCHAFORD, a hamlet just below Haytor, with a farm and 6 cottages, is at some distance from the Ilsington leat, whence the water is fetched, while HIGHER BRIMLEY (a farm and 8 cottages) has a roadside well, often dry or nearly so in summer.



In the Teign valley below lie LIVATON, COLD EAST and HALFORD ; these are all dependent on wells, some of the indifferent quality which this part of the district yields. There is, however, a well of very fair quality at Halford, belonging to some charity property, to which the neighbouring cottages have access. The school at Blackpool (about 100 children), with teacher's house, depends on a shallow well in the playground (about 6 feet deep), which has more than once failed in the late summer months. An adjacent slaughterhouse uses an open watercourse.

The proposed water scheme, which includes all the above villages and hamlets, is still in abeyance, owing to legal questions as to the exact rights in the potwater having been raised. The Council are, however, taking active steps with a view to attaining a settlement, and it is to be hoped that this will not be long delayed.

SIGFORD, another hamlet, has an excellent supply brought in by gravitation from a spring and distributed to the various dwellings, while the village of SOUTH KNIGHTON depends partly on wells and partly on a public spring, stored in a tank, with tap.

MOUNTSLAND, a hamlet on the extreme west of the parish, is supplied by a spring, also piped down.

There is only one short sewer—at Livaton—and most of the closets are of the privy type. There are, however, more water closets at Livaton, as a rule without flush.

**NEW WORK.** The roadside gutter running down through Ilsington village has been reconstructed with brick channelling, in place of the former rubble stones ; waste water is thrown here constantly, and with a steep fall and a constant stream of clean water flowing, a great improvement has been effected.

The well at Higher Brimley has been cleaned out and protected, and the waste water drain carried across the road.

At South Knighton, the public spring has been opened up and the tank repaired.

Three new houses were built, and the drainage of another put in order.

Infectious disease was limited to two cases of diphtheria,

Twelve deaths (1 from diphtheria, 3 phthisis, 2 each from influenza and cancer) give a rate of 13·5 per 1,000, as compared with a decennial average of 14·2.

**Ipplepen** population 789—acreage 2,887. An upland village on a shale and limestone formation. The water supply is derived from the Paignton waterworks near Holne, and shows the usual type of a good moorland water. There is a home reservoir containing 75,000 gallons on a hill near the village, from whence it is distributed. This supply is rapidly replacing the old shallow wells—often of most inferior quality,

and also uncertain in quantity—which were previously in use ; 80 houses are now connected to the mains.

The sewerage is of modern construction, and is all brought to one outfall in a meadow ; water closets are general, and many of these have now been flushed. House drainage has received a good deal of attention of late years, and reconstructions are still proceeding.

**NEW WORK.** The school drains were reconstructed and closets flushed ; a new system was provided at Wrigwell. I have made a house to house inspection of nearly half the village, and partly owing to this and partly to the initiative being taken by owners of property, 16 drainage systems, in connection with 80 houses, have been put in order, while no less than 66 closets were provided with a flush. This represents a large amount of work done in the village. I hope to finish the inspection during the present year.

The parish was free from infectious disease.

Nine deaths (2 from phthisis) give a rate of 11·4 per 1,000—a great improvement on the figures of the previous year (19·0) ; the decennial average was 14·9.

**Kingskerswell** population 1,027—acreage 1,797. A large residential village, nearly midway between Newton and Torquay, whose water supply it shares, though there are still a few wells in use. Water closets are general, and the majority are now flushed ; there are two sewer outfalls, both of which have settling tanks, whose overflow irrigates meadow land, and they are managed by the authority. The sewers are piped throughout.

Six new houses were built, while the drainage in connection with 11 others was put in order, 12 closets being provided with flush.

**WHILBOROUGH**, a hamlet in the parish, has a public well of fair quality, though the water runs rather low in summer. There are five dairy farms which send milk to Torquay ; the paving of shippens and yards has been receiving attention, and in one case the work has been carried out, while others are under notice.

Notifiable infectious disease was confined to two mild cases of diphtheria, both in February. There were, however, a few cases of measles, with one fatality, also in the early spring months.

Twelve deaths were registered ; measles, 1 ; cancer, 2 ; and violence, 1, being the chief causes ; this gives a rate of 11·7 per 1,000. As in the previous year, a somewhat large proportion (3, or one quarter of the whole) were in the Union House in former residents. The mean rate for the years 1898—1907 was 15·7.

**Kingsteignton** population 1,942—acreage 3,975. Water supply is derived from the Holywell Spring in



Ugbrooke Park and is of excellent quality ; there is a reservoir just below the intake of 85,000 gallons' capacity. The flow of the spring varies considerably according to the season, but the parish is entitled to 43,000 gallons a day, with the option of purchasing more at threepence per 1,000 gallons. There is a metre for purposes of registering the amount. With the increase of the town and the ever growing consumption of water, the maximum amount allowed has now been passed, and here, also, measures are found necessary to check waste. With practically new mains and service pipes, leaky taps and wilful waste are the chief offenders to be dealt with. Kingsteignton is chiefly inhabited by a working class population, and there are scarcely any villa residences, whose tenants are generally large consumers. Therefore, the conditions are somewhat dissimilar to those obtaining in Chudleigh, Kingskerswell, and other localities where there are many of the larger class of houses.

The sewers are all piped with the exception of a large tile and brick culvert, varying from 15 inches to 2 feet in diameter, which extends from the centre of the town to the outfall. Near the mouth of this, some silting came to light towards the end of the year, but openings made three points above, showed the rest of the sewer to be perfectly clean. Manholes were constructed at these points for future observation.

Water closets are general, and practically all in the town are now flushed.

PRESTON and SANDYGATE, hamlets in the parish, are well supplied with water from the Kingsteignton mains.

**NEW WORK.** Three new houses were built, while plans for ten were passed ; this seems to indicate more building activity in the near future.

The drainage in connection with 6 houses were put in order, 9 closets being flushed.

A mission hall and class rooms have been built at Sandygate,

**INFECTIOUS DISEASE.** Several cases of diphtheria and scarlatina were reported during the year, with one fatality from the former disease (see pages 14 & 15). There were also 3 mild attacks of typhoid fever. Whooping cough was prevalent during the summer months (2 deaths). There was also a death from measles in a child attending a school in a neighbouring parish, where the disease had broken out.

Thirty-eight deaths were recorded, giving the somewhat high rate of 19·6 per 1,000. The chief causes of fatality were : diphtheria, 1 death ; measles, 1 ; whooping cough, 2 ; influenza, 3 ; tubercular diseases, 2 ; cancer, 3 ; apoplexy, 1 ; and violence, 2. No less than 6 took place in the Union House in persons belonging to the parish. The decennial average worked out at 17·9.

**Lustleigh** population 400 -acreage 2,978. This village lies in an elevated, though sheltered, valley, about 300 feet above sea level; granite is the main geological feature. Water supply is derived from the South Harton spring, and is soft, pure, and abundant. The reservoir, which has a capacity of 50,000 gallons, was overflowing for practically all the summer. Most of the houses are connected with the mains.

The sewerage system is combined with that of Brookfield and Wreyland, which are in the parish of Bovey Tracey; this has an outfall in a meadow below the village, which is managed by the authority.

**NEW WORK.** A new sewer was constructed in Town Orchard—550 feet in length.

One new house was built, and the drainage in connection with three others put in order.

With the exception of an incipient outbreak of measles late in December, the parish was free from infectious disease.

Six deaths give a general rate of 15·0 per 1,000; the mean for the preceding 10 years was, however, only 11·1.

**Manaton** population 315—acreage 6,422. A moorland and sparsely populated parish at an elevation of 800 feet above sea level; a few houses near the church and school, with the adjacent hamlets of FREELAND and WATER, comprise all the centres of population. Private wells and springs constitute the water supply, which is generally pure and abundant, and of the usual granite type.

There is a short sewer crossing the green, but closets are mostly on the dry system.

No sanitary work of importance was carried out, and the parish remained free from infectious disease, with the exception of a few cases of measles.

Three deaths (1 from violence), give an annual rate of 9·5 per 1,000,—less than half that of the preceding year; the decennial average was 12·3.

**Moretonhampstead** population 1,541,—acreage 7,910. This moorland town lies at an elevation of nearly 700 feet above sea level. The water is derived from various springs at Moor, and is soft and pure; the area of intake—beds of granite sand—is considerable, and the carrier pipes to the reservoir are nearly all socketed and cemented glazeware; the storage amounts to about 100,000 gallons in an open reservoir. Owing to growths of algæ, it has of late years been necessary to clean out and thoroughly limewash this reservoir two or three times during the summer months; the supply held out very well during the past year.

Water closets are general; those in the town are now practically all flushed. The recently installed sewerage system consists of two main sewers, which encircle the hill on which



the town is built, and unite just below the station. Down to this point there is a rapid fall, while a stretch of threequarters of a mile of comparative level follows, terminating in a septic tank, with overflow irrigating meadow land ; this is managed by the owner of the farm in question. This system has given considerable trouble, chiefly in relation to the storm water which it also receives, and though the rainfall in 1908 was a low one, the most careful attention was required, and even then the working was at times unsatisfactory. The position has been under discussion by the council for some time past, and finally Mr. S. Segar was instructed to investigate the whole scheme and advise a plan of improvement ; his report is expected shortly. Fortunately it is the lowlying portion at some distance from the town which is chiefly affected, though complaints have been occasionally received from those living in the immediate neighbourhood. During the summer I made a house to house inspection of the town and as a result several closets were provided with flush and other minor details attended to ; as far as the town itself is concerned, there is little or nothing to complain of, and I found back premises generally kept very clean, though of course many of the cottages are of old construction.

House refuse is removed three times a week.

**NEW WORK.** One new house was built and the drainage in connection with 4 others put in order ; 6 closets were flushed.

The hamlet of DOCCOMBE on the Exeter Road, about 750 feet above sea level, is supplied with water by one spring and several wells, generally of fair quality.

The whole of the Moreton subregistration district, including Moreton, Lustleigh, Manaton, and North Bovey, lies on a granite formation at a considerable height above sea level.

There was a severe and general outbreak of measles late in the year, in the parish, which caused 3 fatalities ; also a death from whooping cough in the spring ; there were however no cases of notifiable infectious disease. Twenty-three deaths, including, besides the above, cancer 2, phthisis 1, infantile debility 2, apoplexy 1, and violence 1, gave a general death rate of 14.9 per 1,000,—a considerable improvement on the mean for the preceding 10 years, which worked out at 18.7.

**North Bovey** population 398—acreage 5,589. This parish is on the border of the Moor and adjoins that of Moreton. The village has one public well on the green besides private wells.

There is one short sewer, but pail privies are almost invariably in use.

Seven new houses were built.

I made a house to house inspection of the cottage property in the village in September with the following results :—of 26

dwellings, only one was empty. Three contained six rooms, 16 five rooms, 4 four rooms, and 2 three rooms,—a total of 120 living rooms (not including back kitchens or sculleries). These accommodated 63 adults and 42 children, 4.2 persons per house, and less than 1.88 per room. The greatest number under one roof were parents and 6 children in a five roomed house, and in no case was there any overcrowding. The cottages were generally in very good order; 17 are thatched, 6 (in one block) tiled, and the rest have slate roofs. All have separate closet accommodation—with one exception of the pail privy type. Most of them resort for water to the public pump on the green, which is within a short distance. A few (including the row of 6 model cottages) have private wells, and I had no complaint on this subject. Such drainage and sinks that existed appeared to be in good order.

No sanitary work of importance was carried out.

Except for an outbreak of measles, without fatality, in the late summer, there was no infectious disease.

Four deaths (1 from violence and 1 in the Union House), give the low general rate of 10.1 per 1,000, identical with that for the years 1898-1907.

**Ogwell** population 250—acreage 2,089. The water supply is derived from a deep well in the shale (100 feet) about a mile from the village; the water from this is pumped into a reservoir by a windmill and thence distributed by standpipes, though three or four farms have private taps. Several cattle troughs are also connected. There is also a spring, with pump, of excellent water in the centre of the village, and by careful management, which consisted in cutting off cattle troughs and private taps during the dry weather, the supply held out fairly well; one farm has its own supply from an adjacent spring.

Closet accommodation is of the privy type and there are no sewers.

No sanitary work of importance was carried out.

Two mild cases of diphtheria and a few cases of measles occurred during the year.

Three deaths (1 from violence) yielded a rate of 12.0 per 1,000, as compared with a decennial average of 15.9,—a considerable improvement.

**Stoke** population 463—acreage 2,167. There are two public pumps and many private wells; this is a sandstone district, which generally yields a plentiful supply; I had no complaints of shortage during the past year.

There is one small sewer, which discharges into the brook, but there are few water closets, and these, as a rule are hand flushed.

The hamlet of HIGHER GABWELL is supplied by wells.

MAIDENCOMBE, which lies in an isolated position on limestone cliffs, overlooking the sea, has one public well and a few.



private ones, but several houses near the summit depend largely on rainwater storage. The movement to provide a public supply has not made any further progress.

One new house was built, and the drainage of another put in order.

The parish remained free from infectious disease.

Four deaths (2 from tubercular disease and 1 from apoplexy) give a rate of 8.6 per 1,000, while the mean for the preceding 10 years was 15.4.

**Teigngrace** population 190—acreage 1,496. A small and sparsely populated parish in the Teign Valley. The water supply is largely derived from wells—generally of the moderate or indifferent quality yielded by the clay formation of the neighbourhood.

The schools, 6 adjacent cottages, and a farm, have however an excellent spring water piped down from Staplehill.

In this respect a cottage at Drumbridge presented some difficulty, which was met by the storage of the roof water in an underground cement tank, with pump; a Berkfeldt filter being used for drinking purposes.

No other sanitary work of importance was carried out.

Infectious disease was limited to two mild cases of diphtheria.

Two deaths were registered (1 from phthisis); general rates of 10.5 per 1,000 for 1908, and a decennial average of 7.1 (the lowest on the list), sufficiently indicate the healthy record of the parish.

**Trusham** population 165—acreage 625. This is considerably the smallest in area, and, with the exception of Buckland, the least in population. The village occupies an isolated position on the western slopes of Haldon, at an elevation of about 300 feet. There is one public dipping spring of very fair quality, which however ran very low during the past summer. Luckily a deep well (70 feet) in the upper part of the village, which suffers most, was available, and was much resorted to.

There are no sewers and closets are of the privy type.

The sanitation of the half a dozen cottages which constitute Rattle Street has been receiving attention; in several of them rubble floors were replaced by concrete, and other minor matters remedied; but the question of drainage still remains, and in my opinion provision should be made for slop water disposal. The owners are under notice to do what is necessary, but there is some difficulty in connection with the outfall of such a drain, and at present the work has not been carried out.

Stone quarries near the station constitute a considerable local industry, and the produce is in much request for road making in the neighbourhood.

Except for an outbreak of measles in the summer months, the parish was free from infectious disease.

Five deaths (1 from cancer) give the heavy rate of 30.3 per 1,000 ; on the other hand the decennial average was only 14.6.

**Widecombe** population 657—acreage 10,786. This moor parish is the largest in area in the district, and has a considerable proportion of uncultivated land. The villages of LOWER TOWN, WIDECOMBE & PONSWORTHY, and the hamlets of POUNDSGATE and DUNSTON are the chief centres of population. The granite formation of the locality yields generally speaking, pure, soft, and abundant waters. Many of the houses at Widecombe are supplied by a spring on the glebe land, brought in by gravitation ; there is also a dipping spring, with overflow, of very fair quality,

PONSWORTHY has two good springs ; there is also an excellent spring at LOWER TOWN, besides private wells.

There are few water closets and only one short sewer (at Widecombe) ; closets are as a rule on the dry system.

Two new houses were built.

Several minor matters are being attended to in the hamlet of Dunston, chiefly in connection with some feoffee property.

An outbreak of whooping cough in the spring was attended by two fatalities ; measles in the autumn was responsible for another ; no other infectious disease was reported.

Eight deaths (measles 1, whooping cough 2, apoplexy 1, and violence 1), resulted in a general rate of 12.2 per 1,000, as compared with an average of 13.9 for the ten preceding years.

**Woodland** population 170—acreage 1,634. This is another parish of purely rural type, in which moreover there are no centres of population ; shales and slate are the predominant geological features. Water is derived from wells and is generally abundant.

Closets are mostly on the dry system, and there are no sewers.

One new house was built.

The drainage of one farm was reconstructed and a water supply provided in another.

The parish remains free from infectious disease (except 2 cases of erysipelas in one house—see page 14).

One death (from cancer) gives a rate of 5.9 per 1,000, while the decennial average is 9.6—both very good figures.

The details of Mr. Roger's (the Sanitary Inspector) report have been incorporated under the different parishes, but I append the usual table showing the principal sanitary work done in each for purposes of comparison.

Seventy-one legal and 169 intimation notices were served ; these are either complied with or being followed up.

Thirty-five houses were completed, as compared with 40 in 1907, while plans for 50 were passed ; 25 of the former were workmen's dwellings.



TABLE SHOWING SANITARY WORK CARRIED OUT IN THE DIFFERENT PARISHES IN 1908.

PARISHES.	New Houses.		Water supply.	New sewers (in feet)	Old Houses.				Drain tests.	Rooms fumigated and disinfected.	REMARKS.
	Built.	Plans passed.			New drains.	Houses served.	Closets provided or flushed.	Earth Closets.			
Abbotskerswell	1	1	3,850 ft. new 2in. main.	...	1	2	2	...	2	...	Water taken to Whiddon
Bickington	...	...	...	...	1	1	3	...	1	...	School closets reconstructed and flushed
Bishopsteignton	...	...	900 ft. new main and 3 in. meter. 600 ft. new main.	...	4	4	2	...	6	17	New drainage system at school; water supplied to reservoir from Teignmouth main
Bovey Tracey	3	8	...	180	11	11	13	1	18	5	Temporary school put up in Mary Street
Broadhempston	...	...	...	...	...	...	...	2	...	...	School pit privies replaced by pails
Buckland	...	...	...	220	...	...	...	...	...	...	New sewer in Pottery Lane
Chudleigh	...	2	...	...	4	4	3	1	6	...	
Cockington	...	...	...	...	...	...	...	14	...	5	
Coffinswell & Dacombe	...	...	...	...	...	...	...	...	...	...	
Coombe and Hacombe	...	1	...	...	...	...	...	...	1	...	Water supply taken to Dunley House
Dawlish West	3	4	New system in progress.	...	...	...	...	...	1	...	
Denbury and Torbryan	2	2	...	...	...	2	2	...	3	...	
Hennock	1	1	...	...	...	...	...	1	1	...	
Ideford	...	...	...	...	...	...	...	...	...	...	( New gutter (345 feet) put in at Ilington ) ( South Knighton water supply improved ) ( New system at school and closets flushed ) ( Sewerage scheme at Wrigwell provided )
Ilington	...	3	...	...	1	1	2	2	2	1	
Iplepen	...	...	...	...	16	80	66	...	18	...	
Kingskerswell	...	...	...	...	...	...	...	...	...	2	
Kingsteignton	6	5	...	...	8	11	12	2	9	20	New Mission Hall and class rooms at Sandygate New sewer in Town Orchard
Lustleigh	3	10	...	...	5	6	9	...	4	...	
Manaton	1	1	...	550	3	3	4	...	2	...	
Moretonhampstead	...	...	...	...	...	...	...	...	...	5	
North Bovey	1	1	...	...	4	4	6	...	2	2	New water supply provided at Drum bridges New offices built for the Stone Company
Ogwell	...	7	...	...	...	...	...	...	...	...	
Stoke	...	...	...	...	...	...	...	...	...	2	
Teigngrace	...	1	...	...	1	1	1	...	2	1	
Trusham	...	...	...	...	...	...	...	...	...	...	New water supply at Dipwell Farm
Widcombe	...	...	...	...	...	...	...	...	2	...	
Woodland	...	2	...	...	...	...	...	...	1	...	
Woodland	1	1	...	...	1	1	1	...	1	...	
Total	35	50	5350	950	62	131	126	23	80	58	

Nine hundred and fifty feet of new sewerage and 5350 of new mains were laid down, while the drainage in connection with 131 dwellings was put in order ; 126 closets were flushed and 23 earth closets—mostly pail privies—were constructed, in place of the former old type of pit privies ; 80 drain tests were made, and 58 rooms fumigated with the formalin lamp by Mr. Rowe, the assistant inspector. Most of the latter were carried out in connection with notifiable infectious disease, but a few followed cases of cancer, measles, and phthisis.

Below is a list of the more important public works completed or under construction in 1908, or contemplated in the immediate future :—

**ABBOTSKERSWELL**—Sewerage extensions still remain to be done.

**BISHOPSTEIGNTON**—An increased water supply has been negotiated with the Teignmouth Urban District Council, and was available the last six months of the year.

**CHUDLEIGH**—Construction of a septic tank at the main outfall is under consideration.

**DAWLISH WEST**—New water scheme is now in hand and the work begun.

**HENNOCK**—Main spring supplying the village is to be stored in a tank and distributed by standpipes.

**ILSINGTON**—Water scheme for several villas and hamlets is still in abeyance.

**MORETONHAMPSTEAD**—Improvement of sewerage scheme is still under consideration.

**SCHOOL SANITATION.** Work carried out during 1908. Of the schools mentioned in my report for the previous year as needing attention : Bickington—Closets reconstructed and flushed with rain water storage from the roof (1,000 gallons) ; Bishopsteignton—the old wash out pans have been replaced by modern wash downs, and the drainage where defective relaid ; Broadhempstone—the cesspit privies replaced by pail privies with sawdust urinal ; Bovey Tracey—temporary Infant department provided in connection with the British Schools, others remaining to be attended to ; Shiphay Collaton (Cockington)—water supply is under consideration ; Ilsington—trough closets and cesspits without water for drinking or flushing purposes, still awaits the outcome of the proposed new water scheme ; this is at present the most unsatisfactory in the district, and improved methods are urgently needed.

With the exception of the two latter, the condition of the schools in the district, of which there are 35, is very fair, both as regards water supplies and sanitation.

The County Council have recently issued a recommendation that all schools should be scrubbed out once a month ; this is done in many instances, while in others former methods—meaning 3 or 4 times a year—are still adhered to. I think



however that monthly washing is none too much, and in country schools children bring in a considerable amount of mud and dirt from the roads ; this gets trodden into the plank flooring which almost invariably exists and is from all points of view undesirable.

LEAD.—The moor waters, though soft and often peaty, do not seem in this neighbourhood to have a marked action on lead (in the case of that from the Torquay gathering ground at least), owing to the presence of silica, which, being deposited on the pipes, forms a protective coat. In my opinion, however, long lengths of lead service pipe are to be always discouraged where upland surface water is concerned.

During the past summer, owing to the illness of indefinite type of the tenant of a farm near the sea coast, the water from the well was analysed, and after standing in the suction pipe found to give a marked reaction for lead, without even being concentrated. The well, which was in sandstone strata, was otherwise of fair quality, though hard, and nitrates to a considerable amount were present. The lead suction pipe was replaced by galvanized iron. As other matters in the direction of drainage and dampness of walls also called for attention, it is difficult to say whether the lead was in any way responsible for illness, especially as the other members of the household were in fair health.

EARTH CLOSETS AND PRIVIES.—In a rural district, large areas of which are of necessity unprovided with sewers and public water supplies, dry systems are commonly found. The great drawback to these is the difficulty of getting the cottagers to give them the necessary attention, and, if neglected, a serious nuisance is sure to ensue, the danger of which is proportionate to its distance from the dwelling. Where one privy accommodates two or more houses, it is in practice almost invariably left to take its chance, and such an arrangement is, therefore, always to be considered insanitary. I have had the following simple directions printed on stout cards for distribution :—

#### PAIL PRIVY.

1. Keep a box of dry earth in the closet, and add a shovelful after use, also after emptying the pail.
2. Empty the pail frequently, and never let it become more than half full.
3. Dig the contents into the ground at once.

Unless these directions are attended to, nuisance will arise.

To be hung up in the closet.

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I append the report of Mr. C. Rowe (who has succeeded Mr. R. Rowden), Assistant Sanitary Inspector, on the working

TABLE SHOWING DAIRIES, SLAUGHTER HOUSES, BAKERIES,  
AND WORKSHOPS IN THE VARIOUS PARISHES.

Parishes.	Dairies (and Cow-sheds).	Slaughter houses	Bakehouses	Boot Repairers	Builders	Coachbuilders and Wheelwrights	Gasworks	Laundries	Milliners and Dressmakers	Plumbers	Saddlers	Smithies	Tailors
Abbotskerswell .....	10	2	1	::	::	::	::	::	::	::	::	::	::
Bickington .....	::	::	::	::	::	::	::	::	::	::	::	::	::
Bishopsteignton .....	11	2	1	::	2	1	1	3	::	::	::	1	::
Bovey Tracey .....	18	3	6	3	4	2	1	::	4	3	1	3	2
Broadhempston .....	4	1	1	::	::	::	::	::	::	::	::	::	::
Buckland .....	::	::	::	::	::	::	::	::	::	::	::	::	::
Chudleigh.....	12	5	8	::	3	2	1	3	::	1	1	1	2
Cockington .....	16	1	::	::	::	::	::	::	::	::	::	::	::
Coffinswell & Dacombe	6	::	::	::	::	::	::	::	::	::	::	::	::
Coombe and Haccombe	5	1	1	::	::	::	::	::	::	::	::	::	::
Dawlish West .....	10	::	::	::	::	::	::	::	::	::	::	::	::
Denbury and Torbryan...	3	2	1	::	::	::	::	::	::	::	::	::	::
Hennock .....	5	::	2	::	::	::	::	::	2	::	::	::	::
Ideford .....	1	::	::	::	::	::	::	::	::	::	::	::	::
Ilsington .....	9	1	1	::	::	::	::	::	::	::	::	::	::
Ipplepen .....	5	2	2	::	::	::	::	::	::	::	::	::	1
Kingskerswell.....	18	7	2	::	::	1	::	::	::	::	::	::	::
Kingsteignton.....	21	3	4	::	2	1	::	4	::	2	1	1	::
Lustleigh .....	3	::	1	::	::	::	::	::	::	::	::	::	::
Manaton .....	3	::	::	::	::	::	::	::	::	::	::	::	::
Moretonhampstead .....	9	3	5	::	1	3	1	::	3	::	2	1	1
North Bovey .....	::	::	::	::	::	::	::	::	::	::	::	::	::
Ogwell .....	1	1	1	::	::	::	::	::	::	::	::	::	::
Stoke .....	9	::	1	::	::	::	::	::	::	::	::	::	::
Teigngrace .....	4	::	::	::	::	::	::	::	::	::	::	::	::
Trusham .....	1	::	::	::	::	::	::	::	::	::	::	::	::
Widecombe .....	1	::	2	::	::	::	::	::	::	::	::	::	::
Woodland.....	::	::	::	::	::	::	::	::	::	::	::	::	::
Total .....	185	34	40	3	12	10	4	10	9	6	5	7	6



of the Factories and Workshops Act ; a parish table of these, with the dairies, is appended for comparison :—

Annual Report of the Factories and Workshops for the year 1908.

### FACTORIES AND WORKSHOPS.

I have, during the year, inspected the various factories and workshops some two or three times. With the exception of three, all have been kept clean and in good order.

In the above cases, notices have been served on the owners to do the necessary requirements. These have been remedied, as was also a case of overcrowding.

The total number on the register is 72, an increase of 6.

### BAKEHOUSES.

There are 40 of these, generally in good condition. Four notices to limewash the walls and ceilings have been served on the occupiers and one to ventilate bakehouse. The former have been complied with, and the latter is receiving attention. There was an increase of two during the year.

### SLAUGHTERHOUSES.

Over 40 visits have been paid to the 34 slaughterhouses in different parts of the district. The walls and surroundings of these have been kept fairly clean, with the exception of two, which have since received attention.

One slaughterhouse has been rebuilt and all the latest improvements installed.

In addition to the above, I have, in the course of my duty, tested 80 drains, necessitating 108 visits, and fumigated 58 rooms by order of the Medical Officer of Health.

C. N. ROWE,

Assistant Sanitary Inspector.

71 legal and 169 intimation notices were served during the year.



## II.—NEWTON ABBOT URBAN.

**PHYSICAL CHARACTERS.** The bulk of the town is situated in the level basin of the Lemon, which debouches on to the Teign Valley; some of the lower houses stand on the alluvial soil adjacent to the delta of those rivers. This valley is surrounded by hills from 200 to 300 feet high, on which numerous villa residences have been built. Of late years, the town proper has been gradually extending on the lower slopes of the hills, and the new suburbs of Decoy, on the old Torquay Road, and Abbotsbury, on the Highweek side, have arisen. The main streets are as a rule wide; there are comparatively few cross streets connecting them. In the older parts of the town some of the intervening spaces are occupied by courts—22 in all—at the present time containing 1 to 18 houses (and about 150 in the aggregate); others have disappeared and this class of property is undergoing a gradual diminution.

**OCCUPATION.** The chief industries in the town are the locomotive and coach repairing shops of the G.W.R., a large tanyard, and clayworks; these afford employment for several hundred men, the great majority of whom, with their families, live in the town. Newton being surrounded by a large agricultural district, with railway facilities in various directions, has an important market where much business is transacted. It is also a tourist centre, has many residential attractions, and therefore supports a considerable class of retail tradesmen.

There are as far as I know no special diseases which are the outcome of any local condition of employment.

The geological formation of the hills on the Wolborough or southern part of the district is greensand, gravels, and clay, while in the Highweek or northern parish shales predominate.

The district comprises the parishes of Wolborough, Highweek, and Milber (the latter being a portion detached from Coombe in 1901)—a total area of 4,132 acres; at the last census there were 2,704 inhabited houses, containing 12,518 persons, an average of 4.6 per house. Since then, however, plans for 500 new dwellings have been passed, and the estimated population, calculated on the rate of increase between the census of 1891 and that of 1901, is 13,550.

**VITAL STATISTICS.** The number of deaths registered in the district during 1908 was 280, 105 of which took place in public institutions (Union House, Hospital,



and Sanatorium); 70 of the latter belonged to other districts, and are therefore deducted, while 3 deaths at the County Asylum among former residents are added. This gives a net total of 213, of which 109 were in males, and 104 in females, equal to an annual rate of 15.7 per 1,000. This is .4 above the average rate for the preceding 10 years, and .8 higher than that for 1907. If the deaths in the Union House and County Asylum (23 in the aggregate) are excluded, as formerly was the custom, the figure is reduced to 14.0.

The deaths in the four quarters of the year were 77, 52, 45, and 39, giving rates per 1,000 per annum of 22.7, 15.4, 13.3, and 11.5 respectively; thus the first quarter showed far the highest mortality—wholly due to an epidemic of measles and whooping cough—while during the remainder of the year a progressive improvement was manifest. January (34 deaths), February (22) and March (21), were the most fatal months, while November (11), September and December (13 each), gave the best returns.

#### CHIEF CAUSES OF FATALITY.

Seven chief zymotic diseases...	34	deaths
Influenza ... ..	6	„
Puerperal fever .. ..	1	„
Malaria... ..	1	„
Constitutional diseases ...	36	„ (13 phthisis ; 11 cancer)
Diseases of the nervous system	19	„ (9 apoplexy)
„ „ respiratory „	32	„
„ „ circulatory „	23	„
„ „ urinary „	6	„
„ „ digestive „	8	„
„ „ lymphatic „	1	„
„ „ locomotive „	1	„
„ „ parturition ...	1	„
Skin diseases ... ..	2	„
Alcoholism ... ..	2	„
Infantile debility ... ..	8	„
Malformation ... ..	1	„
Premature birth ... ..	3	„
Old age ... ..	21	„
Violence ... ..	7	„ (6 accident ; 1 suicide)

#### AGE INCIDENCE.

Under 1 year ... ..	35	deaths
Between 1 and 5 years ... ..	33	„
„ 5 and 15 „ ... ..	7	„
„ 15 and 25 „ ... ..	4	„
„ 25 and 65 „ ... ..	76	„
Over 65 years ... ..	58	„

Thus the percentage of deaths under 1 year to the total was 16.4; and of those over 65 years 27.2. The former figure is slightly higher than in 1907, while the latter shows a considerable fall, the percentages in that year being 15.5 and 41.7 respectively. The average age at

COMPARATIVE TABLE.

DEATHS FROM	1908.	Average of years 1898-1907	1907.	1906.	1905.	1904.	1903.
Small Pox ... ..	...	...	...	...	...	...	...
Measles ... ..	19	4	5	3	5	...	5
Scarlatina ... ..	...	...	...	...	...	...	...
Whooping Cough ... ..	5	3	2	1	6	2	...
Diphtheria ... ..	5	1	6	...	...	...	...
Continued Fevers (Typhoid, &c)	1	2.5	1	4	1	...	2
Diarrhœa ... ..	4	5.5	3	12	...	9	2
<b>TOTAL 7 CHIEF ZYMOTICS :</b>	<b>34</b>	<b>16</b>	<b>17</b>	<b>20</b>	<b>12</b>	<b>11</b>	<b>9</b>
Phthisis ... ..	13	14.5	11	18	16	22	13
Other Tubercular Diseases ...	4	5.5	8	7	7	5	6
Bronchitis, Pneumonia, Pleurisy	28	23	25	22	27	25	22
Heart Diseases ... ..	22	18	29	25	19	22	26
Cancer ... ..	11	11	8	10	10	21	16
Violence ... ..	7	5	5	6	6	3	6
All other Diseases ... ..	94	90	96	79	117	92	92
Total deaths ... ..	<b>213</b>	<b>183</b>	<b>199</b>	<b>187</b>	<b>214</b>	<b>201</b>	<b>190</b>
Estimated Population ...	13550	11917	13400	13250	13100	12950	12800
General Death Rate ...	15.7	15.3	14.9	14.1	16.3	15.5	14.8
Zymotic Death Rate ...	2.5	1.3	1.3	1.5	.92	.85	.70
Total Births ...	279	279	305	329	290	297	315
Birth Rate ...	20.1	23.4	22.8	24.8	22.1	22.9	24.6
Deaths under 1 year ...	35	34	31	35	38	34	33
" between 1 and 5 years	33	12.5	9	9	17	10	15
" over 65 years ...	58	63	83	71	79	74	68
" under 1 year to 1000 bths.	125	123	102	106	131	114	105
Deaths in Union House ...	87	71	64	96	91	81	65
Deaths in Union House belong- ing to District ...	20	17	16	22	25	26	17
Deaths in County Asylum be- longing to District ...	3	...	6	4	5	...	...

death was 39.7 years, as compared with 47.1 in 1907, and 43.8 in 1906.

The infantile mortality, or deaths under 1 year to 1,000 births, was 125; this though greater by nearly one fourth



than that of 1907, is only 2 points in advance of the decennial average, and considering the large mortality from measles and whooping cough is by no means excessive.

The causes of infant deaths were measles, 3 ; whooping cough, 4 ; diarrhœa, 4 ; influenza, 1 ; diseases of the respiratory system, 11 ; skin diseases, 2 ; debility, 6 ; malformation, 1 ; premature birth, 3. Measles and whooping cough were therefore responsible for one fifth of the total mortality, while chest maladies—so frequently fatal as a later consequence—amounted to nearly one third ; on the other hand premature birth and infantile debility, which in the previous year accounted for 9 and 10 fatalities respectively, receded to 3 and 6. Diarrhœa remained at about the same figure.

I have made the usual investigations on this subject, with results as follows :—of the total 34 deaths of infants in the town under 1 year, 26 (or 76 per cent) belonged to the working classes ; while in 21 (or 62 per cent) the father was earning under £1 a week, or in uncertain employment. In 17, or (omitting 3 premature births) 55 per cent., the children were either wholly or partially brought up by hand ; this percentage, as in 1907, is smaller than in some previous years, in accordance with few deaths from diarrhœal complaints. There were 4 fatalities in the courts, which gives a rate of 6.9 per thousand, as compared with 2.6 for the whole district. Twenty-five deaths were in houses on the lower levels—a large proportion—and 17 in the older dwellings ; in only one case was there any definite insanitary condition, though three of the houses were somewhat damp. In 16 cases the children were stated to have been born delicate : these included 5 debility, 3 measles, and 1 diarrhœa, while one or other parent had weak constitution in 3. Three of the children were illegitimate, 9 were first born, while 4 were twins.

Of the four who died from diarrhœa, three were either wholly or partially brought up by hand ; one in the spring and the others in August ; deaths from measles, whooping cough, and chest diseases were nearly all in the first four months.

There were four infant fatalities in the Union House, three of which were in illegitimate children.

I append a table showing these figures in comparison with six previous years.

YEAR	Total Infant deaths excluding Union House.	Working Classes.	Under £1 a week or in uncertain employment.	Hand fed.	DEATHS FROM					Illegitimate	In Union House
					Digestive System		Respiratory system	Debility	Premature Birth.		
					Total	Hand fed					
1902	38	34	19	20	15	12	4	6	6	1	7
1903	31	29	22	17	8	7	8	3	5	6	8
1904	34	32	22	24	16	16	2	6	8	5	∴
1905	38	33	27	12	∴	∴	12	4	12	4	3
1906	35	28	20	21	10	8	6	5	6	3	2
1907	31	30	22	14	3	2	7	10	9	1	∴
1908	34	26	21	17	4	3	10	6	3	3	4

The births of 150 boys and 129 girls give an annual rate of 20·1 per 1,000, which is 2·7 below that of 1907, and also over 3 points less than the average. This is the lowest birth rate yet recorded, 1902 and 1905 (22·1 in each instance) showing the smallest figures hitherto reached. The births for the four quarters of the year numbered 67, 68, 71, and 73, giving rates per 1,000 per annum of 20·0, 20·1, 21·0, and 21·5 respectively. The natural increase or excess of births over deaths, reckoning the mortality in the Union House and County Asylum, was 66, as compared with 106 in 1907, and 142 in 1906; this gives a gain of 4·9 per 1,000.

In the Union House, which is situated in the district, there were 87 deaths, of which 47 were in males and 40 in females. The principal causes of fatality were: constitutional diseases, 12, of which 3 were due to cancer and 7 to phthisis; diseases of the nervous system, 23; of the respiratory system, 6; of the circulatory system, 10; of the urinary system, 1; of the digestive system, 4; infantile debility, 1; old age, 29; and accident, 1. Forty-six were over 65 years of age, and the average age at death was 60·6 years. Their local distribution was as follows:—Newton Urban, 20; Newton Rural, 20; Dawlish, 3; Torquay, 36; Teignmouth, 7; and Ashburton, 1.

In the other public institutions in the district there were 18 deaths; 13 in the hospital and 5 in the sanatorium. All the latter were assignable to the district,



while 10 of the former belonged to the Urban and 3 to the Rural District.

The figures for the past year were very largely influenced by a severe winter epidemic of measles in conjunction with whooping cough, and in a lesser degree by the prevalence of diphtheria throughout the year. Thus the zymotic death rate was nearly double that of 1907 and the decennial average. Under these circumstances a general death rate of 15·7—only fractionally greater than the average for the preceding ten years—may be considered decidedly satisfactory. The infant mortality also was only slightly above the mean, though considerably increased by the incidence of zymotic disease, and also unfavorably influenced by a falling birth rate. With regard to other chief causes of fatality, phthisis was responsible for 13 deaths—an increase of 2 as compared with 1907, but still well below the decennial average; this rate was '96. Four deaths were due to “other tubercular diseases”—exactly half the figures of the preceding year—so that on the whole tubercle was less destructive. Cancer, with a rate of ·81 per 1,000, coincided with the mean, but was somewhat in excess of 1907; as might be expected in the presence of measles and whooping cough, the mortality from diseases of the respiratory system was in excess of the normal—but not markedly so; heart diseases showed a considerable reduction as compared with the high figure of the preceding year, but were still several points above the mean. Deaths from violence displayed a slight tendency to increase.

Turning to the mortality at different age periods, the deaths of young children (68 or nearly 32 per cent. of the whole were under 5 years of age) were a somewhat prominent factor, while the proportion of senile fatalities, together with the mean age at death, was correspondingly reduced.

**ZYMOTIC DISEASES.**—From the 7 ordinary zymotic diseases 34 deaths were registered, viz.: Measles, 19 (many of these were assigned to whooping cough in addition); whooping cough, 5; diphtheria, 5; typhoid fever, 1; and diarrhoea, 4. This gives a rate of 2·5 per 1,000, as compared with 1·3 in 1907, and a decennial average also of 1·3.

Notifications of infectious disease were 79 in number, as compared with 61 in 1907 and 34 in 1906; they included 65 diphtheria, 6 typhoid fever, 4 scarlatina, 3 erysipelas, and 1 puerperal fever. Thus the former

disease was responsible for 82 per cent. of the whole. Appended is a table showing the monthly incidence.

DISEASE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Small Pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlatina .....	1	...	...	...	2	...	...	...	...	1	...	...	4
Diphtheria .....	15	7	4	1	5	2	6	2	10	3	8	2	65
Typhoid Fever	...	...	...	...	...	1	1	...	...	...	2	2	6
Erysipelas .....	...	1	...	1	...	...	...	...	...	1	...	...	3
Puerperal Fever	...	...	...	...	...	...	...	1	...	...	...	...	1
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Total.....	16	8	4	2	7	3	7	3	10	5	10	4	79

MEASLES AND WHOOPING COUGH.—The outbreak of measles, which had commenced during the latter part of 1907, in the St. Leonard's school and neighbourhood of Wolborough Street, rapidly spread over the town, and reached its culminating point during the Christmas holidays. The Marsh school and the surrounding locality was the next to be affected and very early in the year the parish of Highweek also suffered. The attendance of the Wolborough infant schools was much diminished in the week preceding Xmas, and in one instance (St. Leonards) the holidays were advanced a week, thus giving a three weeks' closure. This, however, did not seem to affect the progress of disease, and, as mentioned in my report for last year, in the Highweek infant school there were only one or two known cases among the children before the break, while on re-opening a large proportion had been affected. The presence of whooping cough in combination added to the severity of the disease, and many of the deaths were attributed to both causes. This latter disease is most difficult to deal with, because many of the children contract it so slightly that the characteristic cough is heard but seldom and then often only at night; under these circumstances infectivity is not recognized. The senior schools were, as usual, hardly affected at all. Fifteen of the deaths were in January and the remaining four during the next month, though by that time the outburst had practically subsided; all but two were under 5 years of age. There were, however, one or two fatalities from whooping cough in the early summer months. All infected children were excluded from school for a month, and also those



living in the same house who had not previously had the disease. I made several house to house visitations in the localities infected, and left cards giving simple directions. The winter season is always an unfavorable one, perhaps mild weather makes it even more so, because the children after a few days appear to be convalescent, and are then allowed to go out at a time when the lungs and air passages are most susceptible to any exposure. The general type of disease was somewhat severe, especially that obtaining about the beginning of the year ; pneumonia and bronchitis were also common sequelæ. The last general epidemic in the town was in the spring of 1905, about three years ago ; the interval was perhaps shorter than usual.

SCARLATINA, —Though the town was not (as in the previous year) absolutely free, there were, however, only four attacks reported ; one in January, two in May, and one in October ; the latter was contracted outside the district. Three were between the ages of 5 and 15 years, while the other was in a young adult ; two were treated in hospital, and there were no fatalities.

DIPHTHERIA was more or less prevalent in different parts of the town throughout the year. The outbreak of the last few months of 1907 appeared to subside in the beginning of December, but towards the end of the first week in January the disease re-appeared, and during the month 15 cases were notified. Five of these were in one house, four being practically simultaneous, while the other was attacked a few days later. These children were also suffering from measles, rendering removal to hospital out of the question, and there were two fatalities. In the meantime several other attacks occurred, not, however, confined to any particular locality, and as far as I could ascertain, generally disconnected ; among them an aged person of 78, already suffering from bronchitis and emphysema, contracted the disease, which was rapidly fatal. Towards the end of the month, however, a distinct group occurred in children attending the National girls' school, Wolborough ; there were also some cases among the boys who, though separated, are under the same roof. No particular class was affected, and as the children frequently change places examination of contacts was difficult, though one case was thus discovered. On my advice, therefore, these schools were closed for a few days, and a thorough dis-

infection of the premises carried out; floors and desks and all woodwork scrubbed with disinfectant, also attention paid to pens and pencils. The rooms were fumigated with sulphurous acid. This proceeding had the desired effect, and except for one isolated attack at the end of March and another in July—separated by a wide interval—this school has since been entirely free. Incidentally also several colds of influenza type, which had been previously prevalent in the girls' department, completely disappeared. In all there were six cases among the girls, and four among the boys—and the disease was mild. Scattered attacks, however, continued to occur in the town during the next few months; in some of them association with previous cases was discernible, but many were apparently unconnected. Thus the Highweek girls' school contributed three, two of which were class neighbours, and illness practically simultaneous. In two instances multiple attacks occurred in the same house—separated by a three weeks' interval, however, in one of them. The St. Leonard's school, which had suffered in the previous year, was practically free from infection throughout 1908, though there were two cases one in February and one in December. The former was, however, in association with another attack in the same house, and the latter is of interest in that the boy, who was examined as a contact, was found to have a nasal discharge—bacteriologically diphtheria—and had been at school apparently in an infected state for about three weeks without communicating the disease. At the Marsh infant school 6 attacks occurred during the year, but only two were simultaneous, the remainder being spread over a wide period (February to October); several sore throats were in evidence at the beginning of May, but bacteriological examination was negative. Among children at the British school again there were 5 cases (two, however, being members of one family); these were also separated by considerable intervals, the first being about the middle of March, and the last just before the summer holiday. I do not think, as far as these latter schools were concerned, attendance had much, if any, influence on the spread of disease. By the end of July the epidemic was practically over as far as the parish of Wolborough was concerned, but after the re-opening of the schools the infection spread to the Highweek side of the town, resulting in another small outbreak in the Highweek infant school, to which it was mainly confined. In the second week in September five attacks were notified, all in children attending this school, and on



enquiry all were also in the same class—about 70 in number. I therefore made an examination of the throats of the whole class, and sent swabs for examination from 9 who seemed suspicious. The result was the discovery of two nasal cases, one of which had been at school for about three weeks in an apparently infectious state. With the exclusion of these two children, the outbreak ceased for the time, and there were no further cases till the 8th of November—a period of nearly two months. During the next fortnight there were six further notifications among children from this school, but this time in different classes. On my advice the school was closed for a few days and the same fumigation and disinfection carried out as in the Wolborough schools earlier in the year, and attended with the same results; since then there have been no further attacks. In connection with this second outburst some suspicion fell on a boy who had returned from hospital a month previously and shortly afterwards developed a nasal discharge of purulent character. Four swabs (2 taken in hospital and 2 by myself afterwards) were all negative, but nevertheless a sister (then attending the school) developed the disease, and I cannot help thinking that infection existed; at all events the boy was isolated as long as the discharge persisted.

In the Highweek boy's school four cases occurred during the year—February, August, September, and November—the last of these had home associations with an infected child in the infant department, while the other two were in the cottage homes connected with the Union House.

The Catholic school alone—as in the previous year—escaped entirely.

Greenway cottage homes were responsible for four attacks, which is not altogether surprising, seeing that the children were attending schools in the infected part of the town. These did not, however, occur as an outburst, but were spread over a period of nearly three months—one of them was simultaneous with a notification in the Bradley home, though the association was but little. I examined the throats of all these children on two occasions—about 30 in one home and 12 in the other, and several swabs were sent up, including all sleeping in the infected room, but only negative results were obtained. At that time the Greenway home was very crowded, but this has since been remedied by the acquisition of another house.

With the exception of the three school incidents,

there were no definite and connected outbursts of the disease, nor did any particular street or neighbourhood become specially affected. The milk supply was widely distributed, and did not at any time come under suspicion ; dairymen were all warned to watch their children for any signs of sore throat, and then get immediate medical attention—but there were no cases reported from dairy premises. In all 51 houses were invaded, and in nine instances there were multiple cases under the same roof ; five of these practically simultaneously, while in the others a greater or less interval supervened ; in one instance three months. In two return from hospital was under suspicion, but bacteriological examination was negative, while in a third house in which another case occurred two months later, a cat fell under suspicion ; here pseudo bacilli were reported, but “ Klebs Löffler ” absent ; the other children negative. There were a few instances of infection by inter-association with neighbours, but as far as recognised cases went, no tendency to spread in any one street was manifest. Though there were 5 deaths, the general type of disease was very mild—tending to become even more so as the time elapsed ; four of the fatalities were in the first 10 weeks of the year ; the remaining one in the beginning of July. Very few exhibited any signs of subsequent paralysis, and albuminuria was also rare ; there were, however, one or two severe laryngeal attacks, which were arrested by the antitoxin treatment. On the whole the character of the disease was markedly different to that obtaining in the autumn of 1907.

Forty-two of the above were removed to hospital, while the remainder were treated at home. In the latter cases either there were no other children, or where the patient was too ill to move, the healthy were boarded out by the authority. Four of the fatalities took place in hospital. The bedding and clothing, carpets, and other unwashable articles were taken to hospital for steam disinfection, and the sick room (in some cases other rooms also) fumigated with the Lingner apparatus. I visited every case personally immediately on notification, and subsequent visits to infected houses were made from time to time by Mr. Judd and myself. Disinfectants and antitoxin were supplied by the authority, and all expenses of bacteriological investigation defrayed by the Council—for diagnostic purposes by medical men—as well as to ascertain freedom from infection after convalescence. This latter was attended to by myself in cases nursed at home ;



two swabs in each case being taken, to ensure immunity as far as possible. The same precautions are taken at the hospital. Including examination of suspicious throats and contacts, I took personally about 200 swabs during the year; many others were taken by the various medical men. Healthy children in infected houses were excluded from school for a fortnight reckoning from the Monday following their last exposure to infection (i.e., removal of patient or disinfection of premises), and those attacked were also excluded for a further period of 3 weeks after immunity by bacteriological examination had been ascertained. In this connection it is proposed to establish a laboratory under the charge of the newly-appointed Medical Officer of Health for the County, and in my opinion this will render invaluable aid in stamping out the disease, because the expense of examination of swabs in any numbers soon becomes a considerable item. When diphtheria invades a school the most sure method is to make both a throat and nasal examination of every child, and then closure for two days, while awaiting the result, would alone be necessary. Thus all infected children could be at once excluded. Where class places are continually being changed, looking for contacts as such becomes almost impossible. I found, however, that the thorough disinfection of a school on two occasions put an end to a threatened outburst, and this seems to point to infection lingering in the building itself—and I think it most important that every child should have separate pens and pencils, which are so often put in the mouth. Another point worthy of attention is the general condition of tonsils and fauces; if these are unhealthy, an invitation to disease is the result, as soon as any exposure occurs; and I found that many of the patients—probably the great majority—suffered from chronic tonsillar enlargement. Others also whom I examined were defective in the same way, and I am told by the medical inspector of children, who has lately visited the town, that this condition is more than usually marked in this neighbourhood, and possibly, to some extent, contributed to the prolonged nature of the epidemic. Several were, on my advice, attended to; and this is one of the many directions in which the medical inspection—if carried to its logical conclusion and treatment of abnormal conditions results—will justify itself.

The disease was mainly, though not absolutely, confined to children; 14 cases were between 1 and 5

years ; 46 between 5 and 15 years ; 4 between 25 and 65 years ; and one over the latter age.

The last case occurred at the beginning of December, and up to the time of writing no further attack had been reported.

Defective sanitation had apparently little influence ; many of the cases were in houses built within the last few years, and of the older premises, where the drainage was tested, only in three instances was reconstruction necessary ; this has since been carried out.

**TYPHOID FEVER.**--Following a cold summer, this year, like its predecessor, exhibited a comparative immunity from this disease, and 6 cases only were notified, as compared with 5 in 1907 and 11 in 1906. There is very little to be said about any of these attacks ; the first two (in June) were brothers, who had a history of eating raw shellfish, bought at the door, the source of which was unknown ; there was, however, an interval of a few days between the first signs of illness, and the earlier attack was preceded by diarrhoea on the day following the suspected infection. Both these were nursed at home and made good recoveries. The other four cases were reported between November 24th and December 13th, but as far as I could ascertain there was no connection between any of them, and though in two of the houses minor insanitary conditions were found, evident cause of disease was absent. Three of the above were removed to hospital ; there was one fatality. One was under 5 years ; three between 5 and 15 years ; one between 15 and 25 years ; and one (fatal) over 30 years.

**DIARRHŒA** was again but little prevalent, though there were 4 deaths—one more than in 1907 ; all were in children in the first year of life.

**PHTHISIS** caused 13 fatalities, as compared with 11 in 1907 and 18 in 1906. Three of these, however, were naval pensioners, who were invalided from the service, having contracted the disease abroad ; two were brothers. There was one death under 5 years ; one between 5 and 15 years ; two between 15 and 25 years ; and the remainder between 25 and 65 years.

Disinfection with the Lingner apparatus is offered in all cases by the authority after death ; in many it is carried out ; in others rooms are stripped and repapered by the tenants.



I have had cards with simple directions printed for distribution to cases notified by the Poor Law Medical Officer.

The Isolation Hospital is situated on the Totnes Road, about a mile from the centre of the town. Sixteen parishes are associated with the hospital combination, viz., Wolborough and Highweek (Newton Urban District), Abbotskerswell, Bishopsteignton, Bovey Tracey, Chudleigh, Cockington, Coffinswell and Dacombe, Coombe and Haccombe, Hennock, Ipplepen, Kingskerswell, Kingsteignton, Ogwell, Teigngrace, Torbryan and Denbury.

In the typhoid wards there is accommodation for 4 adults, allowing each 2,400 cubic feet, while the iron buildings contain 8 beds, with somewhat less space. There is an administrative block, also a steam disinfecter and mortuary. During the year 67 cases were treated, viz.: 58 diphtheria, 42 of which were from the Urban and 16 from the Rural district; 4 scarlatina, equally divided between Rural and Urban; and 5 typhoid fever, 3 being assignable to the Urban and 2 to the Rural parishes. There were 5 deaths, 4 due to diphtheria, and 1 to typhoid fever, all of which belonged to the Urban District.

In consequence, partly of the late prevalence of diphtheria and partly because only two diseases can be accommodated under separate roofs, the Hospital Committee, acting on the advice of Dr. Carnell, the medical superintendent, and myself, decided to build another block, for the use of diphtheria patients. This was begun in the autumn and will soon be completed; it will accommodate 6 adult patients, giving each a cubic capacity of 2,400 feet. There are four wards, two of which have single beds, each with their own separate closets and sinks and arranged so that if necessary an external verandah will constitute the only intercommunication. These small wards can, therefore, be used for observation purposes, or to isolate any special case (such as one of mixed infection) without thereby rendering other beds useless. The window area is about one fifth of the floor space in the larger wards and one third in the smaller ones, and the flooring throughout is of wood blocks laid on cement. The central portion of the block is occupied by kitchen, linen and drying room and bath room, with the usual sink and closet accommodation. Heating is provided for by hot water radiators, but there are also fire-places in all the wards; this system was also extended to the iron buildings, where the present stoves were found to be unsatisfactory.

**DISINFECTION.**—Houses are limewashed and disinfected by the authority where necessary ; clothes and bedding are dealt with by the steam disinfector at the hospital. The Lingner apparatus for the aërial disinfection of rooms is in use and continues to work efficiently.

**MID-WIVES ACT.**—There are at present three midwives on the books ; these are all registered by virtue of long practice. Visits of inspection have been paid, case books found satisfactorily kept and appliances clean. The only mid-wife certified by examination has left the town.

**SALE OF FOODS AND DRUGS ACT** is administered by the police.

## SANITARY CONDITIONS AND PROCEDURE.

The **WATER SUPPLY** is that of Torquay and is good and abundant. There are, however, some wells in the rural part of the district ; also two or three springs which arise in the Wolborough Hill are still used ; these are, as far as they have been analysed, of good quality.

An attempt was made in the autumn to get the main extended to Mile End, Highweek, where there is a row of 12 cottages, two villas, and other detached dwellings ; the closets depend chiefly on hand flushing ; some shortage is experienced in dry weather, but the water supply is not under the control of the Council, and nothing has yet been effected.

**LEAD.**—Though the public supply is a soft upland surface water, it contains a little silica, which is deposited on the pipes and forms a protective coating. On one occasion last year I sent a sample to the County Analyst which had been standing in the service pipe all night (the house in question is 200 feet from the main) ; this was reported as free from lead.

**SEWERAGE.**—Water closets are general, and the great majority are now flushed. The trunk sewers are of masonry, and are brought to one outfall in the marshes, where there are settling tanks, the effluent from which discharges into tidal waters.

There are two or three short sewers in the village of Highweek, which irrigate meadow land ; the outfalls are managed by the authority.

Owing to some cases of sore throat in a house in Osborne Street, the sewer, which is adjacent to the houses and passes under one of them, was tested and some defects were found ; these were remedied by surrounding the sewer with concrete

By far the largest proportion of new sewerage laid was



again in connection with the various building sites ; this included 100 feet of 15 inch, 754 feet of 9 inch, 184 feet of 8 inch, and 1,075 feet of 6 inch—a total of 2,113 feet, as compared with 1,750 feet in the previous year. In addition to the above 150 feet of branch piping (4, 5, and 6 inch) was put down in connection with gullies.

The most important new work (outside building estates) was the extension of the Knowles Hill sewer for a distance of over 200 yards, to accommodate several villas on the hill above. The houses on the higher levels in this neighbourhood drain, as a rule, into soak away cesspits, but with the increased use of water for baths and other purposes this method tends to become inadequate and the overflow to cause a nuisance.

**SCAVENGING.**—House refuse is removed three times a week in the more densely populated parts of the town, and twice in the outskirts.

**DAIRIES, COWSHEDS AND MILKSHOPS.**—There are 32 milk sellers in the district ; 20 are cowkeepers, while milk is brought in from 10 farms in the rural district. All these are under supervision. The model regulations of 1899 under the Cowsheds, Dairies and Milkshops Order are in force, and these have been printed on stout cards and a copy hung up in every dairy. I have analysed the water supplies of six which were not connected with the public mains, and as a result the town water was installed in two instances ; the well on the premises of a third was cleaned out and protected from road surface water. These are now generally in very fair order ; they are systematically inspected twice a year by Mr. Judd and myself, and are also visited from time to time on other occasions. One or two registered dairymen make street deliveries in carts from the rural district in addition. There are no cowsheds in which the animals are kept in all the year, so that Part II. of the regulations does not apply to this district.

**SLAUGHTERHOUSES.**—There are one public and two private slaughterhouses in use : these are also visited constantly, and I have had no complaints to make with regard to them.

I have (with Mr. Judd) inspected all the workshops in the town ; details are given in his report.

**HOUSING OF THE WORKING CLASSES.**—Though a number of the older dwellings in the courts and elsewhere are still in existence, which cater for those who can only afford a low rent, modern houses are increasing from year to year, and bring with them a collective improvement. In May I made a representation under Part II. of the Housing of the Working Classes Act with regard to Court 10, Wolborough Street, but difficulties arose in the way of dealing with the Court as a whole ; four of the houses were, however, closed with the

consent of the owner without legal proceedings. The Court in Highweek Street, which contains half a dozen houses, was paved throughout with concrete—a great improvement. The rubble paving in Court 8, Wolborough Street, was also replaced with concrete in front of the houses.

Building has not displayed any great progress, but 49 houses, 40 of which were artizan's dwellings, were certified for occupation. The Abbotsbury Estate, Forde Road, Keyberry, and King Street are still the chief sites; the greater part of the former is now built over and several of the principal roads have been taken over by the Council; reconstruction of these with the provision of concrete pavement is now proceeding.

A recrudescence of activity in this department seems, however, probable in the immediate future; plans for 76 new houses were passed during the year, and three new areas are being developed, viz.: Forde Park, the Deer Park, and the site of Fairfield House, adjacent to Hillman's Meadow. The former of these is laid out for the larger type of villa residences, though the loss of this field as an attractive open space is to be regretted. The other two will be occupied by workmen's dwellings; and the neighbourhood of the Decoy has always been one of the healthiest parts of the town.

During the past year I have gone through volumes 5 and 6 of the House to House Inspection Records, and re-visited many of the houses. The original inspections were made between September, 1899, and January, 1900, and the districts concerned included Gloucester Road, Fairfield Terrace, Prospect Terrace, Albion Hill, Mount Pleasant, Southernhay, Northernhay, Reynell Terrace, Torquay Road, The Grove, Market Street, Bearne's Lane, Summerland Street, and Bridport Terrace—in all 310 houses. Since the date of the first inspection the drainage in connection with 88 houses has been entirely reconstructed, and partially so in the case of 80 more; that is to say that 54 per cent. of the drains were put in order, and 103 closets were provided with a flush. In all the above localities only one closet remains to be attended to, and this is under notice.

**SCHOOL SANITATION.**—The enlargement of the Highweek Boys' Council School, by which the accommodation will be increased from under 200 to 400 children, was begun in the summer and is now approaching completion. This comprises the addition of an upper storey, and on each landing there are four class-rooms, two of which can be converted into single rooms by means of a sliding partition; all are connected by corridors, which also communicate with lavatories and cloak-rooms. The former open stoves, which are generally quite inadequate for large buildings of this class, are replaced by hot water radiators. This system of heating makes it possible to keep windows open in winter without creating discomfort—and the constant renewal of air is in



schools a matter of the greatest importance. This and the adjacent girls' school occupy an open and healthy site, with plenty of playground space, on a slight elevation; though practically in the country, they are also within easy reach of the great majority of the parishioners.

In the Wolborough parish the position remains in statu quo. More accommodation is greatly wanted to provide for the continually increasing number of children; that at present is more than overtaxed. The proposed Decoy school is still in abeyance. All have the public water supply for drinking flushing closets.

Mr. C. D. WHITE, Surveyor, reports as follows:—

Report of the sanitary work carried out in connection with the sewers of the district and of the plans for new houses and additions, etc., for the year ending 31st December, 1908.

The new sewers laid in connection with the building sites:—

ABBOTSBURY ESTATE—GARSTON ROAD.

150 feet lineal 8" sk. pipe.

FORDE ROAD.

34 feet lineal 8" sk. pipe.

KING STREET.

42 feet lineal 6" sk. pipe.

DEER PARK ESTATE.

100 feet 15 inch sk. pipe surface water drain.

754 „ 9 inch sk. pipe

417 „ 6 inch sk. pipe

150 „ 4, 5 and 6 sk. pipe gulley connections

SEWER LAID AT KNOWLES HILL DIRECT BY COUNCIL  
616 feet lineal 6" sk. pipe.

Plans approved by Council in the year 1908:—

5 semi-detached houses

56 medium houses

15 smaller houses

1 shop front

1 rebuilding—53, Wolborough Street

2 stables

11 additions

2 cart shelters

1 enlargement of schools

1 laying out the Deer Park Estate

1 new ward, isolation hospital

1 greenhouse

2 workshops

1 cow shuppen

1 sections, etc., of sewers, drains, roads, Deer Park

1 sections of sewer, Forde Road

1 rebuilding and additions, Perry Farm

41 sets of plans in all.

Houses, etc., certified in year 1908:—

9 semi-detached houses

34 medium size houses

6 smaller „

2 stables and rooms

51 certificates in all.

COLERIDGE D. WHITE, SURVEYOR.

February 9th, 1909.

To the Chairman and Members of the Newton Abbot Urban District Council.

GENTLEMEN, - The following is my eighth annual report of work carried out in my department for the year ending December 31st, 1908.

#### THE COURTS.

In the early part of the year your Sanitary Committee made an inspection of the Courts, where it was reported the paving was bad, with the result that they resolved to call upon the owners of Courts VII. and VIII., Wolborough Street, and Shapley's Court, Highweek Street, to put the paving in proper order. I succeeded in getting the owner of the latter property to cement the whole of the Court, thus effecting a decided and much-needed improvement. The paving of Court VII., Wolborough Street, has been repaired where needed, and that of Court VIII., Wolborough Street, considerably improved by cementing the passage way in front of all the houses - an improvement very much appreciated by the tenants.

Twice during the summer months the closets, sinks, and paved surfaces of all the Courts in the town were disinfected.

#### COMMON LODGING HOUSES.

There are only two common lodging houses in the town - one in Wolborough Street, the other in East Street. These are regularly visited, and the bye-laws affecting them enforced. Notices have been served and complied with respecting the periodical limewashing, and the cleansing of the sanitary conveniences, and, with these exceptions, there has been no cause for complaint.

#### SLAUGHTER HOUSES.

There are four slaughter houses in the town, three of which are private and one public. One of the private slaughter houses, however, is hardly ever used. I have no complaint to make as to the way these places are usually kept. The paving outside one of the private slaughter houses having got into bad repair, notice was given the owner to put it in order. This has been done.

#### DISEASED AND UNSOUND FOOD.

Two tuberculous bullocks, together with their viscera, were seized at the public slaughter house and destroyed. One pig, two livers, and about a hundred-weight of bananas were also seized and destroyed.

#### COWSHEDS, DAIRIES, AND MILKSHOPS.

There are on the register 30 persons who are engaged in the milk trade, this being an increase of 7 since 1907.

All the cowsheds, dairies, and milkshops in our district are regularly inspected; the country ones twice a year, and those in the town more frequently.

In all dairies where water is derived from wells or springs, the Medical Officer has made a water analysis, with the result that three supplies were condemned. In one of these the pollution was caused by surface drainage; therefore steps had to be taken to protect the well against this, and the well itself cleaned out, with the result, that on second analysis, the water was pronounced good.

In the other two the pollution was of a more serious nature, so the town water had to be taken in in each case.

In one dairy the drains have been renewed, and in another the paving improved.

#### DISINFECTION.

The fumigating machine has been much in use during the year, as no less than 127 rooms have been fumigated: 106, after diphtheria; 6, scarlet fever; 4, phthisis; 4, typhoid; 1, anthrax; 3, cancer; and 3, measles. The 6 rooms mentioned under the two latter heads were fumigated by request of the occupiers themselves, and the expenses incurred paid for by them.



In February the "Bell" School (girls and boys) was disinfected; the School Managers paying for all materials used, and your Council finding labour. After fumigation the school caretaker scrubbed the floors, desks, and all woodwork with a disinfectant solution.

In November the Highweek Infants' School was similarly dealt with.

One of the buildings at the Isolation Hospital was also disinfected — by request—and the expenses charged to the Hospital Committee.

Sixty-one lots of bedding and infected articles were removed to the Isolation Hospital for steam disinfection,

#### WATER SUPPLY.

Five samples of well water were submitted to the Medical Officer for analysis. He reported two as being satisfactory, and three unsatisfactory. Steps were taken to provide a proper supply for these, and the work has been done.

It was also found necessary to protect from pollution the water supply of 5 cottages at the top of St. Leonard's Road, which is derived from a spring in the field behind the houses.

#### FACTORIES AND WORKSHOPS.

There are on the register this year 87 workshops, as compared with 90 for the year 1907. These have all been inspected.

Seven notices were served for limewashing, and one for the removal of insanitary conditions. All the notices have been complied with.

The following is a list of workshops :—

Basket Makers...	...	2	Bakers...	..	...	16
Brush Makers ..	..	1	Builders	...	...	6
Cabinet Makers	...	1	Coach Builders	...	...	2
Coopers ...	...	1	Cycle Shops ...	...	...	2
Dressmakers	...	17	Dyers ...	...	...	1
Laundries	...	6	Marble Masons	...	...	3
Milliners...	..	3	Painters	...	...	1
Plumbers	...	1	Refreshment Rooms			2
Saddlers	..	3	Smiths	...	..	5
Tailors ..	...	11	Tin Smiths	...	...	2
Upholsterers	...	1				

#### NEW HOUSES.

The drains and sanitary arrangements of 47 new houses were passed as satisfactory, and certified as such to the Surveyor, who grants the habitation certificates.

#### CLERICAL WORK.

The number of notices served is 67; already complied with, 53; letters written, 262.

Summary of sanitary improvements effected during the year :—

Drains relaid or repaired	...	...	...	...	73
Drain inspection chambers built	...	...	...	...	70
Soil and vent pipes fixed...	...	...	..	..	24
Internal soil pipes removed	...	..	..	...	5
Drains cleared	...	...	...	...	13
Cesspools abolished	...	...	...	..	1
New w.c.'s built	...	...	..	..	6
New wash-down closet pans fixed	...	...	...	...	42
Closet flush cisterns provided	...	...	...	...	23
Closet flush cisterns repaired	...	...	...	...	15
Courtyards paved	...	...	..	..	9
Courtyards repaired	..	..	...	..	4
Stables drained	...	...	..	...	1
Urinals built	...	...	..	...	1
Houses cleaned or repaired	..	...	...	...	13
Wells cleaned	...	...	...	..	1

I have the honour to be, Gentlemen,

Your obedient servant,

H. JUDD, Sanitary Inspector.

### III.—DAWLISH URBAN.

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**PHYSICAL CHARACTERS.** The town is situated at the bottom and on the slopes of a picturesque ravine, running from Haldon in an easterly direction to the sea, and is in a remarkable manner isolated by the surrounding hills. The central part of the town is occupied by extensive gardens, which add considerably to its attractions, through which runs the stream known as Dawlish Water. The hills vary from cliffs overhanging the sea with a height of 150—200 feet up to 800 feet on the summit of Haldon. The district, which has a total area of 1,500 acres, includes the residential village of Holcombe, pleasantly situated on the cliffs about  $1\frac{1}{2}$  miles to the south. The geological formation is red breccia or sandstone.

The population at the census of 1901 was 4,003, which for statistical purposes I have left unchanged; there were at that time 892 inhabited houses, with an average number of 4·5 persons per house.

**OCCUPATION.** There are no special industries, with the exception of a brewery, but employment is largely provided in catering for the numerous and increasing spring and summer visitors who frequent the town; with these sea bathing and boating are favourite amusements, and for both Dawlish affords excellent and safe facilities; there are, therefore, many lodging houses, besides several hotels of good standing. On the surrounding hills many villa residences are advantageously situated, and the neighbourhood is generally a most attractive one, both in scenery and climate.

**VITAL STATISTICS.** The number of deaths registered in the district in 1908 was 62, two of which were in non-residents, who died in the Cottage Hospital, while three which took place in the Union House at Newton in persons belonging to the district must be included; this gives a net total of 63, of whom 30 were males and 33 females, giving an annual rate of 15·7 per 1,000; this is exactly midway between the low rate of the previous year (14·0) and the decennial average (17·4). There were six fatalities in visitors; if these are omitted the rate is reduced to 14·2. The deaths in the four quarters of the year numbered 21, 12, 17, and 13,



giving annual rates per 1,000 of 21·0, 12·0, 17·0 and 13·0 respectively. Thus the first quarter again showed considerably the highest mortality, while January (11), July (9), and March (6) were the most fatal months.

#### CHIEF CAUSES OF FATALITY.

Seven ordinary zymotic diseases	3	deaths
Influenza ... ..	1	„
Constitutional diseases ...	10	„ (phthisis, 4 ; cancer, 5)
Diseases of the nervous system	11	„ (apoplexy, 4)
„ „ respiratory „	10	„
„ „ circulatory „	6	„
„ „ urinary „	4	„
„ „ digestive „	5	„
„ „ parturition...	3	„
Infantile debility ... ..	3	„
Premature birth ... ..	1	„
Old age .. ...	2	„
Violence ... ..	4	„ (accident, 3 ; suicide, 1)

#### AGE INCIDENCE.

Under 1 year ... ..	14	deaths
Between 1 and 5 years ... ..	2	„
„ 15 and 25 years ... ..	5	„
„ 25 and 65 years ... ..	18	„
Over 65 years ... ..	24	„

Thus the percentage of deaths under 1 year to the total was 22·2, and of those over 65 years, 38·1. The first figure is a point better than that of 1907, but is still much higher than the normal, while the latter has undergone a considerable drop—just over 10. The average age at death was 43·8, as compared with 46·1 in 1907, and 54·6 in 1906.

Eight deaths took place in the Cottage Hospital during the year, of which two were in visitors (one from Starcross, in the St. Thomas Rural District, and the other belonging to North Devon) ; these latter are not included in the returns.

The infantile mortality, or deaths under 1 year to 1,000 births, amounted to 169, which though 28 below the high figure of the preceding year, is still considerably above the mean of 145 for the years 1898—1907—in itself somewhat large. The causes of this mortality were:—diarrhœa, 1 death ; whooping cough, 1 ; constitutional diseases, 1 ; diseases of the nervous system, 2 ; of the respiratory system, 3 ; debility, 3 ; premature birth, 1 ; parturition (difficult labor), 1 ; and accident, 1.

I again made enquiries concerning these deaths, with the following results: Out of the total of 14, there were two children of visitors, and one of a man who came to Dawlish looking for work. Twelve belonged to the working classes, in eight cases earning under £1 a week or in uncertain employment. Six were either wholly or partially brought up by hand—including the one who

COMPARATIVE TABLE.

DEATHS FROM	1908	Average of years 1898-1907	1907	1906	1905	1904	1903
Smallpox ... ..	...	...	...	...	...	...	...
Measles ... ..	...	1·8	...	...	10	...	...
Scarlatina ... ..	...	·2	...	...	...	...	1
Whooping Cough ...	1	1·1	1	...	...	2	...
Diphtheria ... ..	...	·2	...	1	1	...	...
Continued Fevers (Typhoid, &c)	1	·2	...	...	1	...	...
Diarrhœa ... ..	1	1·2	1	1	...	...	...
Seven Chief Zymotics ...	3	4·7	2	2	12	2	1
Phthisis ... ..	4	6	2	3	7	7	10
Other Tubercular Diseases ...	...	1·5	1	1	1	...	3
Bronchitis, Pneumonia, Pleurisy	7	10	9	5	16	7	6
Heart Diseases ... ..	6	10·5	9	12	11	14	9
Cancer ... ..	5	4·5	5	2	5	6	7
Violence ... ..	4	2	1	...	2	4	3
All Other Diseases ... ..	34	31	27	31	27	24	30
Total deaths ... ..	63	70	56	56	81	64	69
Estimated Population ...	4000	4012	4000	4000	4000	4000	4000
General Death Rate ... ..	15·7	17·4	14·0	14·0	20·2	16·0	17·2
Ditto excluding 6 visitors ...	14·2	15·3	13·5	11·5	19·0	13·2	14·7
Zymotic Death Rate ... ..	·75	1·2	·50	·50	3·0	·50	·25
Total Births ... ..	83	76	66	77	75	76	62
Birth Rate ... ..	20·7	18·9	16·5	19·2	18·7	19·0	15·5
Deaths under 1 year ... ..	14	11	13	4	15	8	5
Deaths between 1 and 5 years	2	4	4	2	8	1	2
Deaths over 65 years ... ..	24	30	27	26	34	31	31
Deaths under 1 year to 1000 births	169	145	197	52	200	105	81
Deaths in Union House belonging to District ... ..	3	3	1	4	3	1	6
Ditto in County Asylum belong- ing to district ... ..	...	...	...	...	1	...	...

died from diarrhœa. Nine were stated to have been delicate from birth, and one or other parent had weak constitution in five. Two were first children, two were twins, and one was illegitimate. Eight were living in the older houses, though there were no definite insanitary



conditions. The seemingly high mortality is to some extent discounted by the fact that

(1) three were in strangers to the town.

(2) whooping cough was responsible for two deaths (one indirectly).

(3) one was due to accident and another to prolonged labor.

The infant mortality has fluctuated considerably of late years, but the decennial mean is rather large ; this, however, is partly due to a series of low birth rates.

The births of 40 boys and 43 girls give an annual rate of 20·7 per 1,000. This is considerably in advance of recent years, indeed, the highest figure since 1898, when it reached 23·0 ; it is, however, barely 2 points above the decennial mean. For the first time on record (since 1875) Dawlish is, in this particular, at the head of the three districts. The births during the four quarters of the year numbered 21, 23, 22, and 17, giving rates per 1,000 per annum of 21·0, 23·0, 22·0, and 17·0 respectively.

The natural increase, or excess of births over deaths, reckoning the mortality in the Union House, was 20, or 5 per 1,000, as compared with 2·5 in 1907 and 5·2 in 1906.

These figures, though hardly so good in one or two particulars as those of the preceding year, may, with the exception of the infantile mortality, be considered fairly satisfactory. The death rate has increased somewhat, but this is mostly due to a greater mortality among visitors ; the zymotic rate has also advanced a little, but one of the three deaths was due to disease contracted elsewhere and another was the result of a summer epidemic of whooping cough. The birth rate again is more satisfactory than it has been for some years past.

Turning to other causes of mortality, tubercular diseases represent a rate of 1·0 per 1,000 (all phthisis), as compared with a mean for the years 1898-1907 of 1·9, though the figure is slightly in excess of 1907. Cancer, as in the preceding year, was responsible for 5 deaths—half a point more than the decennial average. Respiratory and circulatory diseases both contributed a low mortality in comparison with former years ; on the other hand, deaths from violence were somewhat in excess.

**ZYMOTIC DISEASE.** From the seven ordinary zymotic diseases there were three deaths—one each from typhoid fever, whooping cough, and diarrhœa ; this gives an annual rate of ·75 per 1,000, as compared with ·50 in 1907 and a decennial mean of 1·2.

Notifications of infectious disease number 11, viz.: 8 scarlatina, 2 typhoid fever, and 1 puerperal fever. In both 1906 and 1907 there were only three cases of notifiable disease.

**WHOOPIING COUGH.** This disease was prevalent to some extent in the summer, mostly during August and September; being a favourable time of year, only one death resulted.

**TYPHOID FEVER.** Two cases—one fatality. The first of these was in a young adult—a hotel waiter—in the beginning of July, and there is nothing to note concerning it; the origin of disease, as frequently is the case in isolated attacks, was obscure; he was treated in the cottage hospital, and recovered after a rather prolonged convalescence. Later in September another notification was reported, also in a young adult. In this case the patient's occupation was largely away from the town, and there was a history of eating shellfish. A companion, who had also partaken of cockles, was stated to have had a diarrhoeal attack, but escaped anything more serious. The type of disease was severe and ended fatally in the third week,

**SCARLATINA.** Eight cases, in three houses, were reported. The first group was in an isolated cottage on the Exeter Road, and the first attack was so mild that till the peeling stage and the infection of the other children attention was not directed to it. These ranged in age from 2 to 14 years; the last three attacks were well marked. Shortly afterwards three children in a house at the other end of the town were simultaneously infected, and there seemed to be some connection between these two groups, but it was rather indefinite. Two others in this family escaped, but the isolation was good and all precautions were taken.

The remaining attack was early in October—this was in a school girl, but probably originated elsewhere. Of the above, one was under 5 years of age, and the remainder between 5 and 15 years.

There were no fatalities.

**DIPHTHERIA.** The town was again entirely free from this disease in 1908.

**ISOLATION HOSPITAL AND DISINFECTION.** The hospital question has not been further discussed; but the Council, at my suggestion, are in negotiation with



the Exeter authorities, with a view to sending suitable cases to the sanatorium at Pinhoe. This is some 12 miles distant, but the roads are good, as a rule sheltered, and no considerable towns need be passed.

Houses are disinfected and limewashed where necessary and rooms are fumigated with the Lingner apparatus for aërial disinfection. On one occasion the St. Thomas Rural portable steam disinfector was hired to disinfect clothes and bedding.

**PHTHISIS.** Four deaths were registered, one of which was in a visitor. One was between 15 and 25 years, and the others between 25 and 65 years.

I am having cards containing simple directions for consumptive persons printed for distribution under the Poor Law Phthisis Act. Up to the time of writing there have been no cases reported.

Voluntary notification has been adopted, but for several years past this has been inoperative.

**MIDWIVES ACT.** There are only two midwives on the register, both of which come under the section which allowed registration of those in practice previous to 1902. Visits of inspection are paid from time to time, and I have found appliances clean and case books fairly well kept.

**SALE OF FOODS AND DRUGS ACT** is administered by the police.

## SANITARY CONDITIONS AND PROCEDURE.

**WATER SUPPLY** is derived from two springs on Haldon, the flow from which, after a short course—in one case of three-quarters of a mile and in the other about a quarter of a mile—is collected in a small impounding reservoir with a sand filter, and is thence piped to the town, a distance of about 5 miles. The gathering ground, which is from 500 to 600 feet above sea level, is uncultivated and of moorland type, and entirely free from houses or any source of animal pollution. From this point the water is conveyed by a 5-inch main to a home reservoir, containing 500,000 gallons, on the Burrows, a hill just outside the town; this reservoir supplies the houses on high levels, whilst the others draw direct from the main. The main is continued to Holcombe, which is thus supplied from the same source; the intake reservoir and the stream immediately above are cleaned from time to time by the Surveyor.

As in previous years, it has been at times found necessary to turn off the low level supplies for some hours at night to

allow the reservoir to fill, and with the present arrangement a constant supply cannot be maintained throughout the year. To remedy this, and also to provide further storage, two alternative schemes have been under consideration :

(I.) The construction of a low level reservoir near the town in addition to that on the Burrows.

(II.) The building of an impounding dam at the Thorns, by which a large proportion of the winter flow would be preserved—10,000,000-15,000,000 gallons—and then supplying the whole town from the Burrows reservoir.

After considerable discussion, the second plan was adopted by the Council, and the Surveyor has been instructed to prepare plans and estimates for the work.

In my opinion this is by far the best scheme. In the first place, in view of the expense entailed by wholly artificial reservoirs of masonry, a far greater amount of storage can be obtained in proportion to the cost, and judging by the surface configuration of the ground, the narrow gorge at the Thorns would seem an ideal site for an impounding dam, though, of course, much depends also on the nature of the subsoil, which is apparently composed of the usual Haldon greensand. The ground is entirely uncultivated ; is covered with short grass and heather, and little clearing would be necessary. Then again—though these are minor points in comparison with the great reserve secured—the quality of the water, which is of the upland surface type, would, I think, tend to be improved by covering a considerable area, where any detritus or vegetable matters washed down by a storm would have time to settle ; this would also tend to relieve the filter beds. In the case of open storage, which is generally considered best for upland waters, the fact that it is far removed from any centre of population constitutes a further advantage.

The elaboration of this scheme will of necessity take some little time, as many observations have to be made—at some distance—and other preliminaries settled ; but it promises well and ought to settle the water question in Dawlish for a long time to come.

**SEWERAGE.** Water closets are general, and the great majority are flushed ; the sewers are all brought to one main outfall, which is taken out to sea at a distance of threequarters of a mile north of the station ; the outlet is below low water level. This outfall sewer was in good working order during the past year.

Holcombe has a sewer which also discharges into the sea ; there are many water closets in this village, which are practically all flushed ; three or four were attended to in 1908.

A Local Government Board enquiry was held in the summer, which resulted in the grant of a loan for £4,000 to carry out the new sewerage scheme prepared by the Surveyor.

This practically remodels the present system, with an



important extension up the valley to the new building site at Weech in addition—a length of about 1,200 feet. The sewer in Brunswick Street, which is now taking more than its fair share of drainage, resulting in occasional trouble at its junction with that from the Parade and Teignmouth Hill, will be relieved by an intercepting branch on the north side of the stream. Old and defective sewers are to be reconstructed in Church Street, Barton Crescent, Barton Road, Longlands, Stockton Road, Old Town Street, Park Road, Queen Street, Regent Street, High Street, Strand Hill, Exeter Road (to East Cliff), Brookdale, West Cliff, and Plantation Terrace. This amounts in all (including the new sewer at Weech) to a total length of about 12,000 feet, with provision for 106 man-holes. The length of existing sewers in the town, together with the main outfall, is in all nearly 23,000 feet, so that about half of it is to be relaid. The work is to be carried out as soon as possible.

**SCAVENGING.** House refuse is removed daily in the central portion of the town ; twice or thrice weekly in different parts of the outskirts, and weekly at Holcombe. The refuse is at present disposed of by contract to farmers for manurial purposes.

**SLAUGHTERHOUSES,** of which there are six, are regularly inspected by the Surveyor and myself. The yard of one of these (in the town) has been paved throughout with concrete. They are, as a rule, kept in good order.

**DAIRIES, COWSHEDS AND MILKSHOPS.** The Local Government Board model bye-laws of 1899, under the Order, are in force. These have been printed on stout cards and sent round to the milk sellers. There are in the district eleven registered dairies, only four of whom are cowkeepers. The remainder, except one, get their milk from farms in the Newton Rural District, which are there under my supervision ; the exception is in the St. Thomas Rural District. Nine have the town water supply, while one depends on a spring and another on a well. I visit these regularly twice a year, besides other occasional inspections. I have found them generally kept very clean.

In one instance, the shippens have been paved, water supply protected, and other sanitary improvements carried out.

**HOUSING OF THE WORKING CLASSES.** No cases of overcrowding have come under notice, and no houses have been reported as unfit for occupation during the past year.

I have made, in company with the Surveyor, a house to house inspection of High Street, in the course of which 71 houses were visited. Of these, 45 were of the cottage type and tenanted by 93 adults and 58 children, or about 3·4 persons per house. Two contained 2 rooms, sixteen 3 rooms, seventeen

4 rooms, six 5 rooms, one 6 and 7 rooms, and two 8 rooms—a total of 179 living rooms, without including sculleries or back kitchens. This gives less than one person (.84) per room. There was no overcrowding in any case, and the largest number in one dwelling was 8 persons in a five-roomed house; 7 persons in a three-roomed house; 7 persons in a four-roomed house.

The inspection was, however, made late in the year, and it is probable that the summer population would be greater. Out of the total of 71, there were 22 who cater for lodgers.

There are four courts, three containing 4 houses each, and one 5 houses.

None of the tenements are back to back, and nearly all have through ventilation, with small courtyards at the back; one or two of these want attention.

I found the houses mostly dry, with good slate roofs, and the shuting and spoutings in fair order. All have the public water supply for drinking and sanitary purposes; closets are nearly all flushed, but several of the old "pan container" type are still in existence, especially where closet accommodation is upstairs. Where necessary, intimation notices to remedy defects have been served on the owners. I propose to continue this inspection during the present year.

Building, which shewed some signs of activity in 1907, was again slack, and only 2 plans for new houses were passed.

A sanitary convenience has been provided by the Council at the Boat Cove.

**SCHOOL SANITATION.** There are three public elementary schools in the town—the boys, girls, and infants; all have the public water supply for drinking and flushing closets, and I have on my visits found everything in order in these particulars.

**WORKSHOPS, &c.** In company with Mr. Churchward, I visited the following workshops; in two instances want of cleanliness, in three drainage of floors, and in four defective sanitary accommodation was remedied by intimation notice; but in other respects their condition was satisfactory. One bakehouse is "underground," but the construction being satisfactory, the occupier is licensed by the Council. There is only one outworker on the list.

Bakers...	...	...	...	...	...	8
Bootmaker	...	...	...	...	...	1
Builders	...	...	...	...	...	9
Dressmakers	...	...	...	...	...	10
Laundries	...	...	...	...	...	14
Milliner	...	...	...	...	...	1
Plumber	...	...	...	...	...	1
Printers	...	...	...	...	...	2
Sawmill	...	...	...	...	...	1
Smith	...	...	...	...	...	1
Tailors	...	...	...	...	...	4



MR. S. F. C. CHURCHWARD, Surveyor and Sanitary Inspector, reports as follows :—

Summary of sanitary work performed in the district for the year ending  
31st December, 1908.

Houses inspected ... ..	94
Dairies and cowsheds inspected ... ..	10
Slaughterhouses inspected ... ..	6
Intimation notices served ... ..	15
Houses disinfected ... ..	6
House drains, new connections to sewer .. ..	11
Houses redrained ... ..	11
Houses intercepted ... ..	11
Total number of water and smoke tests ... ..	40
Total number feet of drain, water and smoke tested	1247
Total number of visits ... ..	310
Sanitary certificates given... ..	1

S. F. C. CHURCHWARD, Engineer and Surveyor,  
Dawlish Urban District Council.

#### METEOROLOGICAL STATION.

The station, which is maintained by the Council, is under the supervision of the Engineer and Surveyor, and is situate at the entrance to the Lawn. Lat. 50°35' N. Long. 3°27' W. All observations are taken at 9 a.m., local time, it contains the following instruments :—

1. Stevenson's screen, containing dry and wet bulb, maximum and minimum thermometers. The bulbs of the hygrometers are placed four feet above the grass, and are of standard make.
2. Self-recording Aneroid Barometer.
3. Solar Radiation vacuum thermometers, bright and black.
4. Grass minimum thermometer, which is placed on grass, about one inch above ground.
5. Rain gauge—Casella's—diameter of gauge 5 inches; height above sea level, 17·59 feet; and fixed about 12 inches above ground.
6. Sunshine recorder, fixed on parapet of Royal Hotel; in future all observations of the amount of sunshine will be recorded per diem.

#### SHADE TEMPERATURES.

TAKEN AT 9 a.m. (LOCAL TIME).

1908.	Maximum Mean	Minimum Mean	Max & Min Mean	Range Mean	Highest	Date	Lowest	Date
January...	48·7	27·4	38·0	21·3	60	14th	29	10th
February	53·5	44·5	49·0	9·0	62	21st	28	1st
March ..	52·2	34·8	44·5	15·4	66	31st	24	4th
April ....	53·1	34·1	43·6	19·0	63	3rd	30	24th
May ....	62·0	45·6	53·8	16·4	72	17th	38	23rd
June ....	70·7	49·7	60·2	21·0	78	3rd	41	17th
July ....	69·7	47·7	58·7	22·0	78	1st	47	12th
August ..	68·8	51·7	60·2	17·1	78	6th	45	15th
Sept'mber	66·4	44·6	55·5	21·8	67	29th	41	11th
October...	61·2	48·9	55·1	12·3	59	1st	30	23rd
November	54·4	41·2	47·8	13·2	59	21st	30	8th
December.	54·6	39·1	46·8	15·5	61	9th	22	29th
Year .....	59·6	42·6	51·1	17·0	78	July 1	22	Dec.29

## BAROMETRIC PRESSURE.

IN INCHES AND HUNDRETHS.

Reduced to 32° F. and Sea Level

1908.	Mean of Month.	Highest Reading	Lowest Reading	Extreme Range of Pressure.
January .....	30.39	30.50	29.15	1.35
February .....	30.76	30.80	29.20	1.60
March .....	29.56	30.06	29.12	0.94
April .....	30.89	30.36	29.25	1.11
May .....	29.65	30.46	29.24	1.22
June .....	29.71	30.40	29.61	0.79
July .....	30.14	30.45	29.44	1.01
August .....	29.84	30.59	29.29	1.30
September .....	29.89	30.55	29.60	0.95
October .....	29.62	30.26	29.57	0.69
November .....	30.46	30.27	29.44	0.83
December .....	29.60	30.52	28.73	1.79
Year .....	30.04	30.80	28.73	1.17

## RAINFALL.

IN INCHES AND HUNDREDTHS.

1908.	Total Amount	Wet Days	Mean Wet Day Rainfall.	Greatest fall in 24 hours.	Date.
January .....	1.04	12	0.08	0.49	7th
February ..	1.23	17	0.07	0.35	28th
March .....	3.06	19	0.10	0.81	5th
April .....	2.34	15	0.15	0.75	29th
May .....	1.68	14	0.12	0.33	4th
June .....	0.42	5	0.08	0.27	2nd
July .....	1.00	8	0.12	0.31	17th
August .....	2.62	10	0.26	0.69	27th
September .....	2.56	21	0.12	0.52	22nd
October .....	2.57	14	0.08	0.71	15th
November .....	1.07	12	0.18	0.25	21st
December .....	3.28	23	0.14	0.40	30th
Year .....	22.87	170	0.12	0.81	Mar. 5th

WIND DIRECTIONS OF 1908.—North, 9 days ; N.W., 70 ; West, 15 ; S.W., 59 ; South, 14 ; S.E., 90 ; East, 40 ; N.E., 69.

9, 70, 15, 59, 14, 90, 40, 69 - 366 days.

Highest Shade Temperature	...	...	...	...	78°
Lowest Shade Temperature	...	...	...	...	22°
Mean Maximum Temperature	...	...	...	...	59.6°
Mean Minimum Temperature	...	...	...	...	42.6°
Mean Temperature	...	...	...	...	51.1°
Mean Range of Temperature	...	...	...	...	17.0
Total Rainfall	...	...	...	...	22.87
Number of Wet Days	...	...	...	...	170



# ANALYSES OF WATERS—1908.

No.	Source.	Date of collection.	Physical characters.	Free Ammonia		Albuminoid Ammonia		Nitrogen from Acids		Chlorine	Total Solids	(Oxygen Absorbed	Remarks
				Parts per 1,000,000				grains per gallon					
1	<b>Newton Rural.</b> Bishopsteignton, public supply, tap at Hentley	Nov. 4	A few floating particles	nil	·055	1·4	15·0	1·4	15·0	small	Made after the admission of the Paignton supply—an excellent water.		
2	Bovey, well at Hawkmoor.	Jan. 14	good	·01	·06	2·6	14·0	1·7	14·0	small	A good water from granite subsoil.		
3	Bovey, well at Little Bradley.	Jan. 31	good	·01	·06	2·0	23·8	1·7	23·8	small	A well in the Teign Valley—of very fair character.		
4	Bovey, well at Haytor View.	Jan. 31	yellow color.	·01	·11	·50	16·8	1·8	16·8	large	Contains a little vegetable matter.		
5	Chudleigh, pot water at the Weir.	April 7	yellow color, some suspended particles	·01	·13	·40	8·4	1·75	8·4	considerable	An upland surface water; rather much vegetable matter for a public supply.		
6	Cockington, well at Shiphay Farm.	May 23	good	nil	·015	2·5	32·2	2·1	32·2	small	An excellent well water.		
7	Cockington, well near Shiphay School.	Sept 7	yellow-brown color	·01	·30	2·1	42·0	2·4	42·0	large	Not fit for drinking purposes.		
8	Cockington, public well, Shiphay Collaton	Sept. 25	good	·01	·335	3·3	42·0	2·1	42·0	moderate	A hard but good spring water.		
9	Dawlish W., well, Shutterton Farm.	Jan. 10	good	nil	·04	3·3	28·0	4·5	28·0	small	Both these wells are very of fair quality.		
10	Dawlish W., well, Botchell Farm.	Jan. 10	good	·005	·03	1·3	14·0	1·75	14·0	moderate			
11	Dawlish W., spring Weston Farm.	Feb. 7	good	nil	·015	2·6	21·0	1·7	21·0	small		An excellent spring water.	
12	Denbury, spring, Wrenwell Farm.	Feb. 22	good	·005	·02	2·0	21·0	2·1	21·0	small	Another good spring water and an excellent supply.		
13	Hennock, springs, new supply, Frankland's.	Aug. 17	good	nil	·04	2·0	35·0	1·8	35·0	small	All these springs give good results.		
14	Ilsington, public spring, South Knighton	Aug 18	good	·015	·03	...	21·0	1·7	21·0	moderate			
15	Lustleigh, spring, Caseley.	Dec. 18	good	nil	·06	4·1	14·0	1·5	14·0	small			
16	Teigngrace, well, Twelve Oaks Farm.	Jan. 16	good	·03	·10	3·3	34·0	3·5	34·0	moderate	A fair well water in the Teign Valley.		
17	Teigngrace, well, Blatchford Farm.	Mar. 1	good	·02	·03	2·6	16·8	2·8	16·8	moderate	Also in the Teign Valley—a good water.		
18	<b>Newton Urban.</b> Spring, Grange	April 16	good	·005	·25	4·1	75·0	5·6	75·0	considerable	Not used for drinking purposes.		
19	Well, Hele cottages	Mar. 14	yellow color slight	·01	·09	2·3	33·6	2·1	33·6	moderate	Contains a little vegetable matter.		
20	Well, Berry Knowles	April 1	yellow color	·02	·28	6·0	42·0	2·8	42·0	considerable	Not used for drinking purposes.		
21	Well, Higher Lody Park	April 10	good	·005	·03	4·8	35·0	2·5	35·0	small	A good well water.		
22	Spring, Bradley Farm	Aug. 12	good	nil	·035	3·0	35·0	2·1	35·0	small	Analysis good—rather scanty in dry seasons.		
23	Well, Church cottages, Highweek	Nov. 16	good	·01	·08	...	49·0	4·2	49·0	moderate	A fair well water in the shale.		
24	Well, Court 3, Wolborough Street	Dec. 4	good	nil	015	·45	56·0	3·8	56·0	moderate	A hard water, but otherwise of good quality—in the centre of the town.		
25	Spring, Greenhill, Highweek	Dec. 24	good	nil	03	...	21·0	1·4	21·0	moderate	An excellent spring water.		
26	Well, Hele cottages	Dec. 26	good	·01	·075	2·8	28·0	3·1	28·0	small	A considerably improved water.		
27	<b>Dawlish Urban.</b> Spring, Wesbrook Farm	June 11	good	·01	·02	2·3	28·0	2·1	28·0	small	A spring from Haldon greensand—of unexceptionable quality.		
28	Public supply.	Nov. 18	slight yellow colour	nil	·06	·34	7·1	1·3	7·1	small	A very good analysis.		



